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# ENVIRONMENTAL ASSESSMENT BOARD

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VOLUME: 103

DATE: Monday, May 15th, 1989

BEFORE: M.I. JEFFERY, Q.C., Chairman  
E. MARTEL, Member  
A. KOVEN, Member

FOR HEARING UPDATES CALL (TOLL-FREE): 1-800-387-8810

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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL  
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR  
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental  
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental  
Assessment for Timber Management on Crown  
Lands in Ontario;

- and -


IN THE MATTER of an Order-in-Council  
(O.C. 2449/87) authorizing the  
Environmental Assessment Board to  
administer a funding program, in  
connection with the environmental  
assessment hearing with respect to the  
Timber Management Class  
Environmental Assessment, and to  
distribute funds to qualified  
participants.

-----  
Hearing held at the Ramada Prince Arthur  
Hotel, 17 North Cumberland St., Thunder  
Bay, Ontario, on Monday, May 15th,  
1989, commencing at 1:00 p.m.

-----  
VOLUME 103

BEFORE:

MR. MICHAEL I. JEFFERY, Q.C.	Chairman
MR. ELIE MARTEL	Member
MRS. ANNE KOVEN	Member



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APPEARANCES: (Cont'd)

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NORTHWESTERN ONTARIO  
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<u>PETER PHILLIP HYNARD,</u>	
<u>RICHARD BRUCE GREENWOOD,</u>	
<u>CAMERON D. CLARK,</u>	
<u>FRANK D. KENNEDY,</u>	
<u>WILLIAM DOUGLAS BAKER,</u>	
<u>ROBERT ELLIOTT,</u>	
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1       ---Upon commencing at 1:45 p.m.

2                   THE CHAIRMAN: Thank you, be seated.

3                   Ladies and gentlemen, we have been  
4       advised that there is some scheduling problems for the  
5       rest of the week and one of them is unavoidable I  
6       think.

7                   Ms. Swenarchuk indicated that she will  
8       not be able to attend because of illness and it sounds  
9       like it's the rest of the week, so that we will not be  
10      able to complete her cross-examination, which she  
11      indicated would be no more than a day, until some time  
12      after the site visit and then, of course,  
13      re-examination by Mr. Freidin will take place after  
14      that.

15                  Now, with respect to the Federation and  
16      the Ministry of the Environment. Firstly, the Ministry  
17      of the Environment, Ms. Seaborn, indicated that she  
18      would be able to proceed after Mr. Freidin completes  
19      the examination-in-chief and Ms. Cronk completes her  
20      examination, but I believe you indicated that you would  
21      probably not be more than half a day, Ms. Seaborn?

22                  MS. SEABORN: Yes, Mr. Chairman, that's  
23      correct.

24                  THE CHAIRMAN: And we are hoping today to  
25      finish off the examination-in-chief and I believe, Ms.

1 Cronk, we can finish off the industry's case as well,  
2 and then that leaves the Federation of Anglers &  
3 Hunters who had indicated to us previously that they  
4 might be as long as two days.

5 Originally they wanted to start Wednesday  
6 afternoon, then I believe arrangements were made to  
7 possibly start Wednesday morning, but it now looks like  
8 we may be finished and up to the Federation by tomorrow  
9 afternoon. The Board is taking the position that we  
10 are going to notify the Federation to be ready to start  
11 tomorrow afternoon. If they aren't ready to start  
12 tomorrow afternoon they may lose their turn to  
13 cross-examine on this panel.

14 The reason for that is, is that we were  
15 notified only last week of their intention to  
16 cross-examine in the first place. This Board has a  
17 duty to all parties to ensure that this hearing  
18 proceeds in an expeditious fashion and we are  
19 experiencing difficulties in that regard when parties  
20 are not ready to go when they are reached.

21 From time to time we will have to make  
22 some special accommodations, as we are today with  
23 respect to Forests for Tomorrow, when their primary  
24 counsel is ill. We do not consider it a sufficient  
25 reason that a party is not ready to go, particularly



1       when the Board has been given little notice for the  
2       reasons so-called put forward by the Federation which  
3       is basically they have some other commitments and won't  
4       be ready to commence until Wednesday. We will be  
5       notifying them today of the Board's position in this  
6       matter.

7                     The other thing is, is that in future  
8       panels we are going to issue a directive to the effect  
9       that parties must notify the Board of their intention  
10      to cross-examine at the commencement or earlier of the  
11      cross-examination.

12                    Again, it is very difficult for the Board  
13      to proceed with appropriate scheduling, it's difficult  
14      for the Board to know how long to sit on particular  
15      days in order to finish off a panel before a block of  
16      time is lost, in this case to the site visit, and this  
17      hearing is too costly and too lengthy not to insist  
18      that parties organize themselves in order to make  
19      preparations to cross-examine in the order on which  
20      they are reached.

21                    And we feel that although we have been  
22      trying to be throughout as accommodative as possible,  
23      we feel that this situation cannot go on any longer.  
24      And with that, we will commence this afternoon's  
25      proceeding.

1                   Are there any other procedural matters to  
2           deal with?

3                   MS. SEABORN: Mr. Chairman, just in light  
4           of the reorganization of the order, I just want to make  
5           it clear on the record that we are quite happy to  
6           accommodate the Board, however it is our client's  
7           position that we do wish to retain our status as  
8           cross-examining last on the panel and we are in the  
9           position of cross-examining before the other  
10          intervenors.

11                  THE CHAIRMAN: Yes.

12                  MS. SEABORN: It is not something that we  
13          want to do on the future panels if it can be avoided.

14                  THE CHAIRMAN: Well, the Board certainly  
15          supports that, Ms. Seaborn, because we as well, as you  
16          are aware, feel that the Ministry should be coming  
17          after all of the other parties have cross-examined.

18                  And the Board also thanks you for  
19          agreeing on the last couple of panels to go out of  
20          order, otherwise we would be losing more time than we  
21          are already losing.

22                  MS. CRONK: I'm sorry, Mr. Chairman, I  
23          put it sotto voce to Mr. Freidin, perhaps I will raise  
24          it.

25                  In the event that the Federation is not

1 available following the direction of the Board to  
2 cross-examine tomorrow afternoon, and given Ms.  
3 Swenarchuk's illness, that would leave us then with the  
4 balance of Tuesday, Wednesday and Thursday when  
5 normally it would be taken up and I wonder -- I know it  
6 is a contingency that might not arise, but there are  
7 travel arrangements involved.

8 THE CHAIRMAN: Well, we may - and we are  
9 going to try and find out their position at the end of  
10 today - we may adjourn for the week. And again, the  
11 reason for that is, is that other parties can spend  
12 their time much more productively, as can the Board,  
13 other than just sitting around waiting for parties to  
14 get ready and proceed in their turn.

15 MS. CRONK: Thank you, Mr. Chairman.  
16 That was the issue I was discussing.

17 THE CHAIRMAN: One other thing that has  
18 just come up as well and that is, I believe there is a  
19 letter that was sent to all of you by Mr. Turkstra,  
20 Board's counsel, indicating that he would like to hold  
21 a meeting I believe on June 2nd in Toronto.

22 We noted that that coincided with the  
23 couple of days that the Board was going to hold the  
24 proceedings in Toronto, and what we are suggesting is  
25 that perhaps that meeting could commence at the outset



1 of the day. It probably wouldn't take that long in  
2 that we could still sit in Toronto for part of that  
3 day, if we are up to a spot in the evidence where we  
4 can use the two days.

5 In other words, we don't think there was  
6 coordination between Mr. Turkstra and the Board as to  
7 the fact that the Board had intended to sit that day.  
8 He was led to believe I think at the outset that  
9 normally we don't sit Fridays, but we think the meeting  
10 could tack place for an hour or an hour and a half at  
11 the outset of the day and maybe we would start at  
12 eleven o'clock or something like that in Toronto with  
13 wherever we are up to in the evidence.

14 MR. FREIDIN: Mr. Chairman, in relation  
15 to those hearings in Toronto, has the Board given any  
16 consideration to the ability of the Board's offices to  
17 accommodate a panel of nine people, if in fact we are  
18 still within the cross-examination of this panel?

19 THE CHAIRMAN: We thought of that briefly  
20 and you certainly -- the nine of you won't fit in the  
21 spot where we have room for one witness, but we think  
22 we can rearrange the room to have you along the window  
23 side and just rearrange the room slightly.

24 This will also give an opportunity for  
25 any of the Toronto media that may wish to cover this

1 proceeding for a couple of days as well.

2 Okay. Are we ready to go?

3 MR. FREIDIN: You haven't chosen the  
4 window side for the witnesses for any special reason;  
5 have you?

6 THE CHAIRMAN: No. It's only the 12th  
7 floor.

8 MR. FREIDIN: Mr. Chairman, I would like  
9 to perhaps begin by filing a number of exhibits which  
10 will relate to the evidence of Mr. Hogg. Firstly,  
11 perhaps I could file the originals of the photographs  
12 which are contained in Document No. 7 of Dr. -- of Mr.  
13 Hogg's witness statement.

14 Perhaps I will just -- we will mark them  
15 all at this time and I will bring them all up at once.

16 THE CHAIRMAN: All right. That would be  
17 Exhibit 572, I believe.

18 ---EXHIBIT NO. 572: Photographs contained in Document  
19 No. 7 of Mr. Hogg's witness  
statement.

20 MR. FREIDIN: Perhaps we can mark as  
21 Exhibit 573 an envelope which contains two additional  
22 photographs.

23 THE CHAIRMAN: Very well.

24 ---EXHIBIT NO. 573: Envelope containing two additional  
25 photographs.

1 MR. FREIDIN: I would like to mark as  
2 Exhibit 574 an index to the photos which will be used  
3 by Mr. Hogg in evidence-in-chief.

4 ---EXHIBIT NO. 574: Index to photos to be used by Mr.  
5 Hogg in evidence-in-chief.

6 MR. FREIDIN: And if we could mark as  
7 Exhibit 575 a hard copy of three overheads which will  
8 be used during the evidence-in-chief of Mr. Hogg.

9 (handed)

10 THE CHAIRMAN: Thank you.

11 ---EXHIBIT NO. 575: Hard copy of three overheads to be  
12 used by Mr. Hogg in his  
evidence-in-chief.

13 MR. FREIDIN: One errata. If you turn to  
14 page 747 of the witness statement, page 747 above the  
15 heading: Direct Effects, count up five lines you will  
16 see example of Tennessee Warbler. Could you please  
17 change the name Tennessee Warbler to Common Nighthawks.

18 MR. MARTEL: It was just a typo; was it?

19

20 JOHN TRUMAN ALLIN,  
21 PETER PHILLIP HYNARD,  
22 RICHARD BRUCE GREENWOOD,  
23 CAMERON D. CLARK,  
24 FRANK D. KENNEDY,  
25 WILLIAM DOUGLAS BAKER,  
ROBERT ELLIOTT,  
RONALD ORVAL WAITO,  
DAVID M. HOGG, Resumed

CONTINUED DIRECT EXAMINATION BY MR. FREIDIN:



1                   Q. Mr. Hogg, could you outline for the  
2 Board the major messages that you will wish to convey  
3 through your evidence today?

4                   MR. HOGG: A. Mr. Chairman, the major  
5 messages are on the overhead, as indicated there, and  
6 they may seem rather obvious at this point, they  
7 certainly do to me. I think we will move through these  
8 fairly quickly.

9                   No. 1 point is that wildlife species and  
10 numbers in an area, of course, vary with habitat that  
11 you find within and near the regenerating cut-over. In  
12 saying that, you must clearly acknowledge that habitat  
13 is not the only factor affecting species, species and  
14 their numbers, but weather and predators, and disease,  
15 and hunting also play a role.

16                   However, in terms of this environmental  
17 assessment, in particular the evidence of this panel,  
18 we are talking of regeneration and the effect that it  
19 has on habitat.

20                   The second point is obvious, again, that  
21 regeneration does affect wildlife. The nature of the  
22 regeneration within a cut-over will affect habitat  
23 availability in an area and, in that sense, is an  
24 important consideration for our wildlife managers.

25                   The effects can be positive or negative

1 for an individual animal - and I will stress that  
2 individual animal in this circumstance - depending upon  
3 the species we are concerned with, the time over which  
4 a particular form of habitat exists, and the area or  
5 the space over which that change in habitat occurs.

6 For an individual animal, this area is  
7 known as its home range and that's the area within  
8 which it meets its daily and annual requirements for  
9 food, for cover, for water, and space for reproduction.

10 Perhaps just to expand upon that a little  
11 bit and give you a couple of quick examples. In terms  
12 of species, if we are attempting to regenerate a stand  
13 or an area to conifer, the regeneration will be  
14 positive for those species that require conifer stands,  
15 marten, Blackburn warbler are examples of that, perhaps  
16 spruce grouse, but that same conifer may be negative  
17 for those species which prefer deciduous growth.

18 In terms of time, and using the same  
19 examples mentioned basically, the short-term effect of  
20 cutting and renewal will be, in most cases, the  
21 regeneration of deciduous browse. This would be  
22 negative in the short term for some things such as  
23 moose, it may if what they need in that area is more  
24 winter shelter. Conversely, if the moose needed browse  
25 in that area, the initial effect would be positive, but

1       only for that period until the conifer canopy closed  
2       and the process of plant succession would change the  
3       vegetation in the area.

4                 In terms of space, an example there would  
5       be -- in the above example there is an assumption that  
6       moose browse could be created early in the life of a  
7       forest, but in the long term the conifer content would  
8       predominate and would provide shelter.

9                 However, if in a particular cut-over from  
10       which conifer was taken and conifer did not return, for  
11       instance the area was harvested and regenerated to  
12       poplar, this could be negative if in the neighbouring  
13       forest there was a shortfall -- also a shortfall of  
14       shelter provided by conifer.

15                So in summing up, the factors of species  
16       and space and time will affect our judgment about the  
17       effects of a renewal effort.

18                The third point to be emphasized is, is  
19       that in terms of wildlife management the significance  
20       of the outcome of a forest renewal effort depends upon  
21       how changes in habitat will affect or contribute to the  
22       achievement of our wildlife management objectives for  
23       the area. So the significance depends on our  
24       management objectives.

25                Q. In that context, is the distinction

1       that was dealt with by Dr. Euler in Panel 10, that's  
2       the distinction between stand level change and forest  
3       level change, of any significance.

4                       MR. HOGG:   A.   Yes, it certainly is.   The  
5       situation at the forest level is our primary concern  
6       and in this context the definition of forest level that  
7       I'm using is the wildlife management unit level and the  
8       provincial level.

9                       At the provincial level, the minimum  
10      objective we have is for viable populations of all  
11      species and I hope that sounds familiar to you.   Dr.  
12      Euler dwelled on that at some length in Panel 10.   As  
13      well, there are specific targets for some species at  
14      the wildlife management unit level and we are thinking  
15      there of moose and deer and bear, that sort of thing.

16                      Superimposed upon these broader  
17      objectives, there may well be a local consideration  
18      that requires us to provide for certain species in  
19      certain places.   This may mean doing things at the  
20      stand level.   So forest level objectives are the most  
21      important consideration we have, but there may be a  
22      local site objective to be attained at the stand level.

23                      The fourth point is that we use the  
24      timber management planning process as wildlife managers  
25      to give us input into silvicultural decisions that are



1 related to all timber management activities; harvest  
2 renewal, the total package and, as with the forester,  
3 the wildlife manager attempts to look into the future  
4 and consider the change in an area as a total combined  
5 result of harvest, renewal and maintenance.

6 We have to anticipate to some degree,  
7 what's the forest going to look like as a result of  
8 these activities.

9 And the final point is that in all of  
10 this I have just said we are making many assumptions.  
11 And Dr. Allin spoke last Wednesday about scientific  
12 uncertainty and that applies equally to the wildlife  
13 world as well and, thus, it is important for us to  
14 monitor wildlife populations as a means of identifying  
15 in fact whether a viable population is being  
16 threatened.

17 Those are the five major messages.

18 Q. What could be done if the population  
19 monitoring that you referred to indicated that the  
20 decline in the population level was not within normal  
21 fluctuations?

22 A. We could institute specific research  
23 or we could modify our on-going monitoring and attempt  
24 to do two things. One is confirm the trend that we  
25 think we are observing and the second point is to

1 identify the cause of the decline.

2 Q. Could you explain perhaps by way of  
3 an example what you mean when you say that you could  
4 institute research or modify on-going monitoring  
5 programs?

6 A. Well, As the Board is aware, the  
7 Ministry is in the midst of developing a general  
8 wildlife population monitoring program. The program is  
9 not finalized, the details will change and so what I  
10 say here I say with some caution.

11 However, a likely detail about the  
12 program as it is currently envisioned is that we will  
13 gather information that should allow some correlation  
14 between animal abundance and the habitat in which they  
15 are found. So if a decline is noted, we will not be  
16 starting from scratch in trying to identify perhaps  
17 there's a habitat implication.

18 And to expand upon that further, because  
19 I think it's an important point, let me explain what I  
20 am talking about. As observers gather information  
21 about the number of animals of a certain species they  
22 may have seen in a given area, they will also be noting  
23 the nature of the habitat in which they're making  
24 observations and, thus, again we will be able to make  
25 some linkage between animal abundance and different

1 habitat.

2 This information will be at least of some  
3 assistance in evaluating if a decline is attributable  
4 in some way to habitat change.

5 Q. If the population monitoring  
6 indicates a concern about a certain species declining,  
7 would the Ministry have to rely solely upon the  
8 population monitoring or its own follow-up studies?

9 A. No. We would not have to rely upon  
10 just our own population monitoring or our own studies.  
11 I think it should be made -- or it should be obvious  
12 that the Ministry is not the sole information about  
13 wildlife and the relationship of wildlife in terms of  
14 for this habitat, or wildlife and disease and wildlife  
15 and their predators. We use information from a wide  
16 number of sources to help us understand our wildlife's  
17 biological requirements and the reaction to  
18 environmental change. So our population monitoring  
19 won't be the sole source of knowledge about wildlife  
20 and how they change in the province.

21 Q. Now, on page 735 of the paper which  
22 is actually the first page of your paper, you outline  
23 five habitat elements which affect and determine which  
24 wildlife species will utilize a cut-over.

25 Could you briefly describe how each of

1 those elements influence the wildlife species as  
2 suggested?

3 A. Okay. We will try to go quickly  
4 through that. I think it's important to have some  
5 appreciation for these factors in order to understand  
6 what the impacts might be on wildlife of altering those  
7 factors.

8 Number 1 item, size and shape of cut.  
9 There are obviously implications for the amount of  
10 habitat that is created by a cut so, therefore, size is  
11 a factor and Dr. Euler and Mr. Armson spoke at some  
12 length again about clearcut size.

13 In terms of the shape of cut, some  
14 wildlife are associated with both the early  
15 successional vegetative in the cut and the older  
16 vegetation in the uncut stand; that is the edge of the  
17 cut is an important habitat for them. Therefore, the  
18 more convoluted the shape of the cut, the more edge and  
19 the better for the particular species that utilize that  
20 kind of habitat. And deer and grouse are two good  
21 examples of that.

22 Some animals may utilize the open  
23 cut-over but in the process they are more vulnerable to  
24 their predators, or perhaps to human disturbance. So  
25 that's why in the moose guidelines we speak to distance



1 from cover, edge-to-edge distance.

2 Other animals will be provided with  
3 habitat throughout the cut irrespective of its shape  
4 and, to some extent, its size and I'm thinking there of  
5 small mammals and things like deer mice that find a  
6 suitable habitat within those cut-overs.

7 The second point about physiographic  
8 conditions is that animals orient themselves to  
9 variations in topography. That variation offers them  
10 concealment, different vegetation develops in such  
11 sites, you get different drainage, you get different  
12 soil conditions and you get different microclimate, and  
13 very often those variations in landscape offer wildlife  
14 an activity centre, their activities are often centered  
15 around those kind of variations.

16 The third point, the living residual and  
17 regeneration. I think perhaps an obvious one, groups  
18 of trees and shrubs particularly offer some variety  
19 within the cut and wildlife react to that kind of  
20 diversity, that vertical vegetative diversity in a  
21 multi-layered canopy beginning to develop and Mr. Hanna  
22 asked Dr. Euler about structure. I think you've heard  
23 something about that.

24 That kind of living residual assumes  
25 greater importance within the cut-over as the

1       vegetation develops around it because it's more useful  
2       as habitat and more used as habitat.

3                       Item 4, dead material within the  
4       cut-over. Again, there are about 40 species of birds  
5       and mammals that use cavities within standing snags,  
6       those same areas are used as perches for hunting and  
7       resting, feeding by woodpeckers and, again, that  
8       material achieves its greatest value when regeneration  
9       begins to occur around it and you get some vegetative  
10      variety within the cut.

11                      The downed woody material, the logs and  
12      slash also constitute cover for small mammals.

13                      And then the last point there, habitat  
14      near the cut, I have already spoken about its  
15      importance and how the wildlife manager must have some  
16      sense of the big picture in order to make some judgment  
17      about the effects of renewal on these particular  
18      interests.

19                      Q. On page 755 there is a comment that I  
20      want to direct your attention to. It's in the last  
21      paragraph on page 755. You say:

22                      "There is a wide variation in these  
23      elements..."

24                      You are referring to the five habitat  
25      elements you have just described:

1 "There is a wide variation in these  
2 elements between different logged sites."

3 And what is the significance of that  
4 observation, Mr. Hogg?

5 A. Well, it's because of this variation  
6 between various sites and the difference in our forest  
7 regeneration efforts that are applied to those sites,  
8 thus, our regeneration efforts should not cause an  
9 adverse impact upon all wildlife species in all places  
10 in the undertaking.

11 Q. And what's the significance of that?

12 A. Well, quite simply it means the  
13 attainment of our broad objective of viable populations  
14 of wildlife over a broad area. It should not be  
15 jeopardized by forest regeneration efforts within an  
16 individual stand.

17 Q. Is that an assumption that you are  
18 making?

19 A. Well, yes, it is an assumption to a  
20 fair degree and the basis of that assumption is  
21 evidence that was given by my forestry colleagues in  
22 Panels 9, 10 and in 11 and they've indicated that,  
23 first of all, harvesting is dispersed in space and time  
24 throughout the forest, that sites vary in terms of soil  
25 moisture, nutrients and aspect, tree species vary and

1 stand conditions vary. Those stands aren't all the  
2 same age.

3 As well, different silvicultural systems  
4 are used and the amount of the residuals that are left  
5 is variable, even when speaking about clearcuts the  
6 amount of residuals that are left is variable.

7 Different logging methods are used on  
8 those sites and, thus, the amount of slash that remains  
9 it variable.

10 Different regeneration methods are  
11 applied to those sites, and I am referring to both  
12 mechanical site preparation and the various kinds of  
13 equipment that are used in prescribed burning that may  
14 or may not be applied. And then those areas may or may  
15 not be subject to various levels of artificial  
16 regeneration effort.

17 And because of all these variations, we  
18 expect a mosaic of different ages and species of  
19 vegetation to develop across the area of the  
20 undertaking and, therefore, we expect that in the total  
21 forest we will continue to provide diverse habitat to  
22 accommodate all known wildlife species.

23 Q. Can we move on to natural  
24 regeneration and you have got an overhead that deals  
25 with natural regeneration. That overhead is the second



1       overhead in Exhibit 575.

2                       Could you summarize for the Board the  
3       major implications for wildlife of natural  
4       regeneration?

5                       A.   Again, this information may sound  
6       somewhat similar to what the Board has heard from our  
7       foresters, but very often wildlife management interest  
8       is in things other than just the crop trees and  
9       particularly the understorey I'm speaking of, and I  
10      will try and direct my comments at that aspect.

11                      The harvest of those mature and  
12      overmature trees leads to the development of herbs and  
13      shrubs on the site and in conjunction with nearby uncut  
14      stands, you have a diverse flora in the area and this,  
15      of course, leads to the development of a diverse  
16      wildlife community as well.   And I have a figure in my  
17      evidence at page 738, I don't propose to go to it  
18      particularly, but it demonstrates and illustrates that  
19      some species of wildlife are found at every stage of  
20      vegetative succession.

21                      Q.   I believe that's the same figure that  
22      was referred to by Dr. Euler when he was describing the  
23      different successional stages and the various wildlife  
24      species which would inhabit the forest at each stages.

25                      A.   Yes, it's the same figure.

1                   Now, the cut site greens up with  
2           herbaceous growth within one to two years and shrubs  
3           begin to grow in perhaps years one through three and  
4           depending on the site and using a rich site as an  
5           example, deciduous shrubs will flourish until the  
6           canopy closes and the understorey is reacting to  
7           different light conditions and temperature conditions  
8           and moisture regimes caused by this canopy closure.

9                   And shade tolerant vegetation at that  
10          point will invade the site and things such as balsam  
11          will be present and grow in such an understorey, beaked  
12          hazel, something like mountain maple, but those things  
13          generally won't provide the abundance of food and  
14          habitat at least at or near ground level that existed  
15          prior to canopy closure.

16                  In a predominantly coniferous stand  
17          following clearcutting, closure of the canopy occurs in  
18          about the period of 10 to 30 years and natural seeding  
19          would result in the slowest conifer closure and  
20          artificial regeneration will result in the quickest  
21          closure of that canopy.

22                  In a predominantly deciduous stand that  
23          has been subject to selection cutting or uniform  
24          shelterwood cutting canopy closure will occur in about  
25          7 to 15 years and there are, of course, exceptions to

1       these numbers, an example being a regenerating poplar  
2       canopy which can close very quickly, say perhaps within  
3       three years.

4                       Q.   So just to summarize, if you are  
5       regenerating in predominantly coniferous stands it will  
6       take longer for crown closure on the average than it  
7       would for deciduous stands?

8                       A.   Correct, yes.

9                       So the question -- so the question is:  
10      Given this kind of information, the kind of general  
11      knowledge about the natural regeneration process, what  
12      does a wildlife life manager do.

13                      I'm speaking here sort of the fourth  
14      point on the overhead there. And if the wildlife  
15      manager desires early successional deciduous vegetation  
16      it generally will follow harvest except perhaps in a a  
17      very nutrient poor site where seed sources are lacking  
18      or vegetative sources are not available.

19                      If the manager wants to prolong that  
20      early successional stage, for example to maintain  
21      forage for beaver, then a natural regeneration regime  
22      should be followed and such a prescription for natural  
23      regeneration may include limiting herbicide use in  
24      specific important habitat that has been identified as  
25      an area of concern. And I realize this panel is not

1 speaking to the effect of herbicides, but that is one  
2 point I think that simply I should make.

3 Q. Are there any specific examples of a  
4 natural request being made of a forester to leave an  
5 area for natural because of wildlife objectives. Do  
6 you have any examples of that?

7 A. There are not a lot of specific  
8 examples of that and I think that's -- to me it's  
9 obvious that is so because natural regeneration is  
10 occurring, we expect that to happen.

11 And the general consensus is that  
12 deciduous regeneration is not generally limiting, but  
13 there are examples and I gave the one of regeneration  
14 of an area to provide forage for beaver and there are  
15 also some examples where - again it's a herbicide  
16 story - where herbicides are not applied to an area  
17 adjacent to winter shelter. So there are some examples  
18 of that occurring.

19 Q. Could you just explain what you mean  
20 when you say natural regeneration is not limiting?

21 A. I mean that natural regeneration is  
22 occurring and it's occurring to such an extent that it  
23 is not limiting on the productivity of our wildlife.  
24 There is lots of natural regen out there for them to  
25 browse upon in most cases.



1                   Q. All right. If you would move on to  
2 artificial regeneration and I understand you've got  
3 another overhead for that.

4                   A. Okay. The artificial regeneration  
5 will affect those three items mentioned on the  
6 overhead; the species of vegetation, the relative  
7 abundance, and the length of time that particularly the  
8 early vegetative stage exists. And I specify early  
9 vegetative stage because other timber management  
10 activities will affect the duration of later stages.

11                  As well, point 2 is that artificial  
12 regeneration will or it may affect those other habitat  
13 factors I spoke of earlier; the standing dead trees,  
14 the downed woody debris, the living residual, the  
15 natural regeneration.

16                  Q. How will it have that effect?

17                  A. I beg your pardon?

18                  Q. You say that artificial regeneration  
19 may affect the amount and nature of standing dead trees  
20 and the value of downed woody debris. I am just  
21 wondering how -- in what way does artificial  
22 regeneration have that effect or could have that  
23 effect?

24                  A. Well, I think in a few minutes we  
25 will be speaking about this further, but just the

1 methods applied will in fact affect those elements--

2 Q. All right.

3 A. --what is left on the site after  
4 treatment.

5 Now, those effects would be positive or  
6 negative and that judgment varies with the objectives  
7 for the particular wildlife species you are concerned  
8 with, the time frame in the area in which the  
9 evaluation is being made.

10 An example of a positive effect is the  
11 return of conifer shelter for big game, assuming that  
12 is the wildlife objective. And a second positive  
13 example is that, depending on the length of time since  
14 the area was harvested and the length of time that  
15 regeneration has been occurring on the site since  
16 harvest, there may be a fairly high canopy develop on  
17 the site, so that the site preparation being applied at  
18 that point in time will reopen the canopy and you end  
19 up with a second release of early vegetation on the  
20 site and that, in some circumstances, may be seen to be  
21 positive.

22 Now, possible negative effects include  
23 shortening the period of early successional growth and  
24 accelerating the return of a closed canopy. And I say  
25 accelerated, making the comparison with natural

1 regeneration.

2 As well, there may be the return of a  
3 less vegetatively diverse forest than may be desirable  
4 from a wildlife management viewpoint. For example, a  
5 conifer stand subject to intensive renewal efforts may  
6 result in a lack of browse, particularly in the  
7 mid-successional and the mature forest stages. You end  
8 up with a closed canopy with few herbs and shrubs or  
9 deciduous trees. As a result, there are fewer  
10 ecological niches or habitats. Accordingly, there may  
11 be fewer wildlife species.

12 Now, this situation where conifer  
13 predominates does obviously occur in nature. You have  
14 heard of and are aware of fire origin jack pine stands,  
15 lowland black spruce, and it is on these same sites  
16 that man has his best chance to create a largely  
17 coniferous forest. And such forests may be less  
18 productive for moose as an example, but they will still  
19 be habitat for the wildlife that are typically found in  
20 such vegetatively -- that are typically found in these  
21 less vegetatively diverse situations.

22 On rich soils that are in many cases  
23 mixed wood sites, it is very difficult to exclude  
24 competing shrubs and the wildlife community will have  
25 more habitat niches and, thus, be more diverse on these

1 sites.

2 Q. Could you provide a real life example  
3 of two of the impacts that artificial regeneration can  
4 have on wildlife and the attainment of wildlife  
5 objectives.

6 A. Well, we are speaking of the fourth  
7 point here and that is that if wildlife management  
8 objectives require it, conifer can be artificially  
9 regenerated. I am not aware myself of examples of  
10 artificial regeneration of conifer exclusively for  
11 wildlife management purposes in the boreal forest  
12 The moose guidelines make allowance for that, they  
13 suggest that it may be required. I'm not aware of  
14 examples of it having to be done.

15 However, artificial regeneration to  
16 conifer is routine for timber management purposes and  
17 this can have a beneficial effect. There is an example  
18 not too far from Thunder Bay in the Greenwich Lake  
19 area, an area of hardwood uplands with conifer in the  
20 valleys.

21 The foresters and the Ministry are  
22 attempting to regenerate small blocks of those hardwood  
23 areas to conifer for their own purposes, for timber  
24 management purposes, but that will benefit moose as  
25 well because in that area the judgment is on the part



1 of the biologist that conifer has been and is the  
2 limiting factor.

3 So in that scenario you end up with happy  
4 biologists, foresters and hopefully moose.

5 In the Great Lakes/St. Lawrence Forest  
6 there's at least one example where wildlife managers  
7 want conifer regenerated and Mr. Hynard spoke to this  
8 somewhat the other day. He spoke with slight concern  
9 on the part of foresters about the regeneration of  
10 hemlock because these hemlock stands are aging and, at  
11 some point, reproduction will be required.

12 Mr. Hynard is a patient man though, and  
13 the biologists are not quite so patient because that  
14 hemlock forms the prime winter cover for deer in that  
15 part of the world and it's important that it be  
16 replaced with conifer. So there has been some effort  
17 on the part of wildlife managers anyway to regenerate  
18 hemlock in those areas and with only marginal success.

19 So in summing up, I should say that  
20 seldom will wildlife managers insist or argue that  
21 artificial regeneration of conifer must occur. It's  
22 occurring anyway, but there are -- and there are a few  
23 specific examples where bios -- excuse me, it's  
24 occurring anyway -- regeneration of conifer is  
25 occurring anyway. There are a few specific examples

1 where bios want natural regeneration to occur and we  
2 spoke to those examples.

3 Q. I would like to ask you a couple of  
4 questions about mechanical site prep. Are the actual  
5 effects of mechanical site preparation influenced by  
6 the equipment used or the methods followed? I'm  
7 talking obviously about the effects on wildlife.

8 A. The effect of different site  
9 preparation equipment on wildlife is presumed to be  
10 variable, although there is no research on the topic of  
11 which I'm aware.

12 However, in my judgment, the effects of  
13 that equipment will be related to the amount of  
14 disturbance of the various habitat elements that we  
15 have spoken of earlier. For example, blading will  
16 produce the most severe disturbance in the sense of  
17 reducing the amount of debris and removing any residual  
18 and regeneration. And something like a Bracke will  
19 produce the least severe disturbance and barrels and  
20 chains might have an intermediate effect.

21 And I guess it should also be noted that  
22 no matter what equipment is used some woody debris that  
23 has remained on the site post-harvest will still remain  
24 on the site post-site preparation treatment.

25 Q. When you are considering the effects

1 of mechanical site preparation, do you distinguish  
2 between effects at the local level and the effects at  
3 the forest level as we discussed earlier?

4 A. Yes, obviously, in the sense that we  
5 do expect there will be a local effect from mechanical  
6 site preparation, however, it is unlikely that there  
7 will be a cumulative similar forest level impact  
8 because of the variation in habitat elements between  
9 sites and because that variety of equipment is used and  
10 very often because not all the cut-over is generally  
11 treated. And then, of course, we have the mix of cut  
12 and uncut stands throughout the forest.

13 So there should be no cumulative forest  
14 level adverse impact on wildlife because of mechanical  
15 site preparation.

16 Q. Is the mechanical site preparation  
17 that actually gets employed influenced in any way by  
18 wildlife management concerns?

19 A. There is no alteration of mechanical  
20 site preparation practices to meet wildlife concerns at  
21 this point. None is thought necessary at the  
22 provincial level and none is routinely occurring.

23 Viable wildlife population -- viable  
24 wildlife life populations that might be affected by the  
25 isolated action of mechanical site preparation continue

1 to exist and, as well, I think a point to be  
2 remembered - perhaps made again - is that it is  
3 impractical to manage so as to have all wildlife  
4 species on all places at all times.

5 And when saying that, again we are  
6 cautious in our assumption about the viability of  
7 wildlife populations and those assumptions require  
8 checking in our population monitoring and through other  
9 related research.

10 And although I indicated that there was  
11 no alteration of mechanical site preparation at the  
12 provincial level, at the local level there may be some  
13 action as a logical follow through on a harvest  
14 decision. For example, the maintenance of a shelter  
15 patch or wildlife corridor left during harvest will  
16 obviously be protected during forest renewal  
17 activities.

18 Q. If I could, I would like to refer you  
19 to page 746 of the witness statement and you state,  
20 starting about five lines up above prescribed  
21 burning -- the heading: Prescribed Burning, you  
22 indicate that:

23 "The general consensus is that light to  
24 moderate mechanical site preparation  
25 often improves the production of herbs



1                   and shrubs compared to pre-treatment  
2                   levels while severe disturbance and  
3                   compaction may reduce productivity and  
4                   the amount of habitat."

5                   What do you mean by severe disturbance in  
6                   that context?

7                   A.   A severe disturbance in that context  
8                   means the sort of disturbance that might be created by  
9                   shear blading, root rakes, perhaps heavy drags and use  
10                  of which results in heavy damage -- extensive damage to  
11                  the roots of competing shrubs.

12                  Q.   You have heard the evidence of the  
13                  foresters in this panel I think and Panel No. 10  
14                  through Mr. Greenwood that there was no evidence that  
15                  the productivity of crop trees was reduced by severe  
16                  disturbance or compaction.   Do you recall that?

17                  A.   Yes, I do.

18                  Q.   Do you agree with that evidence?

19                  A.   Yes, I do.   And to carry on with it,  
20                  I am not in any way contradicting what Mr. Greenwood  
21                  said and I'm agreeing with the fact of what Mr. Kennedy  
22                  said about the effects of site preparation, in that  
23                  site preparation can inhibit the growth of shrubs and  
24                  thus give a competitive edge in fact to the crop trees.

25                  And additionally, although shrubs --

1 shrub growth can be inhibited, even on heavily  
2 disturbed sites, the growth of shrubs is greater than  
3 in the unlogged forest.

4 So even in that scenario where shrub  
5 growth is inhibited, there is still a net gain for  
6 browsing wildlife as a result of our forest harvest and  
7 renewal.

8 Q. And just briefly how would light to  
9 moderate mechanical site prep improve herbaceous and  
10 shrub production?

11 A. Well, first of all, light site  
12 preparation, you would be treating it with perhaps  
13 light drags or disk trencher or Bracke and that results  
14 in some mixing of organic and mineral soils, some  
15 aeration of the soil, you get minor damage to roots,  
16 root suckering is induced, seed germination is enhanced  
17 and, thus, regeneration of shrubs and herbs is  
18 encouraged, particularly poplar and thereby browsing  
19 wildlife will benefit.

20 Q. So overall then can you communicate  
21 whether mechanical site prep has a positive or negative  
22 effect on wildlife habitat?

23 A. Overall we consider the effect to be  
24 basically insignificant in terms of the achievement of  
25 our objectives. However, from the standpoint of

1 herbivores, those things that graze and browse, the  
2 effects are generally negative in the short term, in  
3 that it may reduce or limit those herbs and shrubs in  
4 perhaps years one through five; however, in the medium  
5 term, the effect of site preparation will be positive  
6 as herbs and shrubs will generally increase over what  
7 it might have been prior to treatment. So again,  
8 there's a net gain for browsing wildlife.

9 Q. A couple of questions about  
10 prescribed burns. Are there any direct effects of  
11 prescribed burns on wildlife?

12 A. Direct effects, I think -- mostly I  
13 think about mortality and there is some study of the  
14 topic. Mortality of vertebrates from wild fire is the  
15 effect that is most studied. The effects of prescribed  
16 burns on vertebrates in this respect I believe are not  
17 right at issue. I believe, although mortality does  
18 occur, it is not significant at a population level.

19 Q. Is there anything which indicates  
20 what happens to wildlife or, you know, what they do  
21 when there is a fire? Do they escape the area, or are  
22 some of them consumed in the fire?

23 A. Well, again, there are a number of  
24 papers of wildlife reaction to wild fire, but not that  
25 many address what happens during prescribed burns.

1                   There are some papers though, some  
2                   research on the matter. In both cases mortality does  
3                   occur. The less mobile animals are obviously most  
4                   vulnerable, but searches after the fire generally find  
5                   few animals killed.

6                   Large animals flee and small mammals,  
7                   reptiles, amphibians take shelter by burrowing into the  
8                   earth or taking advantage of unburned areas and if  
9                   mortality does occur, it is probably because of  
10                  suffocation rather than high temperatures.

11                  In terms of recovery on those sites,  
12                  true, the small mammals recover anyway. Some will  
13                  recover very quickly, things like deer mice being seed  
14                  eaters come to occupy a site fairly quickly after that  
15                  kind of disturbance, shrews being insect eaters take  
16                  longer to recover.

17                  Q. Are there any potential indirect  
18                  effects of prescribed burns on wildlife?

19                  A. There are, again, both positive and  
20                  negative effects. However, overall as stated in the  
21                  Class EA we consider prescribed burns to have generally  
22                  a positive effect on wildlife food as a result of their  
23                  fertilizing effect which lasts from approximately one  
24                  to four years, a fairly short period of time, and this  
25                  leads to a greater quantity and improved quality of



1 herbs.

2 Q. What do you mean? Improved quality,  
3 what do you mean by that?

4 A. Well, quality pertains to  
5 characteristics such as digestibility of the plants,  
6 palatability and their nutrient content, and they are  
7 generally improved as a result of prescribed burning.

8 Just to speak further to indirect  
9 positive effects, in the case of light prescribed burns  
10 the regeneration of such things aspen and birch which  
11 are obviously wildlife food may be stimulated and  
12 although a short-term suppression of shrubs and trees  
13 is possible for two or three years after a burn,  
14 post-burn production of shrubs eventually becomes  
15 higher than that in the unlogged forest and, thus,  
16 there is a net gain for browsing wildlife. So that is  
17 the positive side of the indirect effects.

18 On the negative side prescribed burning  
19 can adversely affect wildlife shelter. For example,  
20 there may be a reduction of that dead and downed woody  
21 material I spoke of and fire may cause harden logs  
22 thereby affecting a number of insects that will inhabit  
23 those logs and this has implications for small mammals  
24 that feed upon them.

25 And perhaps to explain just a bit about

1 case hardening, as I understand the term. First of  
2 all, the material is charred on the outside which isn't  
3 very attractive for burrowing insects or small mammals  
4 and then beneath that char, very often the surface is  
5 harder, so it is not as attractive a material it would  
6 have been prior to burning.

7 Now, this potentially negative effect  
8 could be minimized by burning at lower indices and  
9 moistening logs and the literature speaks to this being  
10 done in some locales. But there are no examples of  
11 this being done in Ontario because at this time we  
12 consider the potential -- this potential negative  
13 effect to be insignificant.

14 The potentially negative effect that is  
15 of greatest concern is the possible removal of or  
16 damage to specific wildlife habitat that has been  
17 protected through timber harvest prescriptions. And  
18 it is routine that such habitat is also protected  
19 during prescribed burning.

20 And from plans that I have reviewed,  
21 instances of cases where eagle nest sites, osprey nest  
22 sites, moose corridors, moose aquatic feeding areas,  
23 moose calving sites have all been protected during  
24 prescribed burning and they have been protected by such  
25 methods as bulldozing firebreaks, erecting sprinkler

1 lines or wetting the area down prior to the fire being  
2 initiated.

3 In some cases water bombing of a site by  
4 aircraft and then, of course, our people utilize their  
5 knowledge of fire behaviour just what area is going to  
6 burn and not burn, and utilize natural boundaries to  
7 protect some of these features that are of interest to  
8 wildlife people.

9 Q. Mr. Elliott, where are you? Mr.  
10 Elliott, have there been any prescribed burns conducted  
11 solely for wildlife purposes?

12 MR. ELLIOTT: A. Yes, there have been 13  
13 such burns since 1971.

14 Q. And, Mr. Hogg, are you aware as to  
15 the purposes that requests were made for prescribed  
16 burns by wildlife managers?

17 MR. HOGG: A. Usually these situations  
18 are meant to benefit DEER browse. In a light burn, you  
19 try to put a light burn through a site fairly early in  
20 the year, burn at low indices to simply fertilize the  
21 site to some extent and, thus, induce suckering and  
22 better growth.

23 So most of the examples are for the  
24 benefit of deer. There is one example of those 13 that  
25 was an attempt to improve water fowl habitat trying to

1 open up a marsh, improve its suitability for water  
2 fowl.

3 Q. And I understand that you've got some  
4 slides that you would like to show the Board.

5 A. I do.

6 MR. FREIDIN: Can somebody get the  
7 lights. Exhibit 574 is the index to these photographs,  
8 Mr. Chairman.

9 MR. HOGG: This is photo No. 1 in the  
10 written evidence, page 763, and it demonstrates some  
11 non-living logging residue in a cut-over and this  
12 material providing cover and a source of food for  
13 insects -- excuse me, predators.

14 There are about 70 species of wildlife in  
15 the area of the undertaking that are associated with  
16 such dead and downed woody material to a greater and  
17 lesser degrees. Woodpeckers, chickadees, nuthatches,  
18 red-backed voles are examples of that and this material  
19 provides habitat.

20 This is photo No. 2 page 763, and this is  
21 a short-tailed weasel also known as ermine utilizing a  
22 log as escape cover and perhaps for hunting. I am  
23 advised I have to point to this fellow and he's right  
24 there. (indicating)

25 This is true wildlife photography



1 normally the animal is obscured by something. And this  
2 animal avoids the dense forest, he's a creature of the  
3 forest edge and this shot in fact was taken on the edge  
4 of a cut-over near a bit of wet ground and he would be  
5 hunting small rodents especially voles, occasionally  
6 chipmunks and nestling birds and this again is  
7 important habitat. That dead and downed woody material  
8 is important habitat for this kind of animal.

9 This is one of the new exhibits, 573, I  
10 believe and it's a dark-eyed junco and this bird nests  
11 on the ground often sheltered by roots and stumps.  
12 it's not noted particularly for nesting within  
13 cut-overs, but it's certainly noted for foraging in  
14 such areas.

15 It is a seed and an insect eater and, in  
16 actual fact, cutting in an area may improve the habitat  
17 for this particular bird.

18 The next two slides are of snags and this  
19 particular site -- this is photo No. 3, page 736. This  
20 is in a 19-year-old cut-over in the Thunder Bay area,  
21 and this poplar that is currently a snag was probably  
22 left as a residual living tree, has subsequently died,  
23 and now as a snag has persisted for many years and have  
24 not blown down. A single tree or snag such as this  
25 will achieve its greatest value to wildlife as the

1 forest regenerates around it, and I spoke about that  
2 earlier.

3 And large trees, such as this one, are  
4 superior habitat either as a standing dead tree or as a  
5 fallen log. They simply, given their size, will last  
6 longer and thus be of more use over a longer period.

7 And this is real life photography too,  
8 rather dark. It is a downy woodpecker and it is a new  
9 exhibit, 573. It is the smallest member of the  
10 woodpecker family and mostly found in the Great  
11 Lakes/St. Lawrence Forest and feeds almost exclusively  
12 on insects. And here we see it next to its nest in a  
13 red maple. So snags are important habitat.

14 This slide indicates living, residual and  
15 regeneration and it is the same cut-over in which you  
16 saw the previous snag. It is -- some of those poplar  
17 are remaining from the 1969 cut, some have regenerated  
18 to that size since then. It is a rich site and there  
19 is a diverse vegetation on the site, and this area was  
20 subjected to artificial renewal efforts about 11 years  
21 prior to this slide.

22 And what it's demonstrating to the  
23 biologist's eyes anyway is this aspect of diversity,  
24 both in the vertical plane we have lower and higher  
25 levels of the canopy and, of course, in the horizontal

1 plane we have different vegetation juxtaposed. That  
2 was No. 6, page 765 if I didn't mention that.

3 This next slide is No. 9 on page 767 and  
4 what it demonstrates is that -- and this is during a  
5 site preparation effort, some of that material, poplar,  
6 has been knocked down unavoidably. The equipment is  
7 not very particularly agile, if that's the appropriate  
8 word, and if it's in the way it will probably end up  
9 falling in front of the dozer.

10 Now, this effect of knocking down such  
11 material obviously is variable. As in the previous  
12 slide I showed you a large amount of material standing.  
13 Even after this site is prepared, there will be a large  
14 number of those trees standing on the site as well.  
15 But inevitably during that kind of treatment there will  
16 be some of those trees removed.

17 Now, the theme of the next few slides is  
18 this differential effect of mechanical site preparation  
19 equipment. This is a shear bladed site, spruce  
20 cut-over and you will notice the wind rowed material,  
21 the woody material pushed up to the edge, the bare area  
22 between. The bare area has now regenerated to some  
23 form of grass.

24 And although this is a more severe site  
25 preparation method, wind rowed material that you see

1       there is still habitat and that material in that form  
2       will probably persist longer on this site than  
3       individual branches would if those branches were  
4       distributed evenly across the areas that's being  
5       treated. So there is still habitat there in terms of  
6       woody material despite the fact that it was shear  
7       bladed.

8                       This is No. 12 photo on page 767, and it  
9       shows a bladed site in a white pine shelterwood cut.  
10      In fact, the blading had occurred only a few days prior  
11      to that, but there has been quite a drop of needles on  
12      the site so it looks older than it actually is, and  
13      there is little slash on this site, but there is some.

14                     In this situation there has not been a  
15      very dramatic effect of cutting in terms of the canopy  
16      being opened. There wasn't a great exposure of the  
17      forest floor because of the cutting that was employed  
18      here, the cutting method that was used here --  
19      silvicultural harvest system, excuse me, and there is  
20      not a very dramatic effect of site preparation either.  
21      There is little change in the habitat or the wildlife  
22      pre- and post-harvest in these circumstances.

23                     Photo No. 13, page 769, shows logging  
24      debris both before scarification on the left and after  
25      scarification on the right. And it's an overmature



1 jack pine site and, thus, there is lots of dead  
2 material on the ground.

3 It doesn't demonstrate it terribly well,  
4 but there is a change in the nature of debris pre- and  
5 post-treatment. The slash that's still on site on the  
6 right-hand side of the slide indicates that it will be  
7 reduced somewhat in value as wildlife habitat. Small  
8 twigs and branches will be knocked off and the logs  
9 will be in more direct contact with the ground in many  
10 cases and bark will be damaged and decay will occur  
11 faster. So there is that kind of effect of that kind  
12 of equipment.

13 No. 14 on page 769 shows a site after --  
14 in the Thunder Bay area after treatment with Young's  
15 teeth and there is much slash on the site, that's  
16 obvious to the eye. It's slightly deceptive in that  
17 the green material in front is obscuring the material  
18 behind, but there is a fair amount of debris on that  
19 site after that kind of treatment. And, again, we are  
20 looking at wildlife habitat.

21 Slide 15 is an overview of the effects of  
22 a Bracke patch scarifier and you will note little  
23 change to the site after the Bracke has passed by.  
24 Slash and debris on the site are little changed really.  
25 Now, admittedly, the Bracke is not suitable for use on

1 many sites that have heavy slash, so there wouldn't be  
2 a great deal of slash to start with.

3 Moving on to three slides I think the  
4 Board has seen before. Again, this is from a wildlife  
5 biologist's point of view. These are -- these slides  
6 are to demonstrate the effects of prescribed burning in  
7 the Sunshine Lake area in Geraldton District, slide No.  
8 19, page 771. You will see the downed woody material,  
9 you see the living residual behind. I believe this is  
10 after a conventional tree-length logging that occurred.

11 Slide No. 20, page 771, right after the  
12 burn the situation has changed with wildlife habitat,  
13 obviously. We have charring of those logs, case  
14 hardening, they would be less susceptible to insect  
15 damage with a small mammal burrowing. Living residual  
16 has been killed and there is some balsam in the  
17 previous slide there now standing dead, and there would  
18 be some charring of still living trees and you will  
19 notice the leaning birch on the right, you will see it  
20 again on the next slide here.

21 And slide 21, page 773, is a site one  
22 year after that burn. Green-up has occurred,  
23 fertilizing effect is shown to some extent. You have  
24 seen coppice growth from the base of that leaning birch  
25 on the right-hand side, so it is not completely dead.

1 The downed woody material is decaying and the small  
2 dead standing trees in the background are beginning to  
3 fall. There are a few of them in that shot than there  
4 were in the previous shot. All in all, the site is  
5 becoming more hospitable for wildlife.

6 And I will remind you that we have  
7 indicated already that we feel that prescribed burns  
8 are often the preferable site treatment for moose  
9 providing that it needed shelter.

10 MR. MARTEL: Does the burning of those  
11 trees slow down the decaying process after because of  
12 the case hardening?

13 MR. HOGG: I'm sorry, Mr. Martel, I  
14 missed the first part of your question.

15 MR. MARTEL: Would the burning -- the  
16 prescribed burn, does that slow down the process of  
17 decay after because of the char and the case hardening?

18 MR. HOGG: It would to some extent. We  
19 have all seen examples of trees that have lasted --  
20 logs burned many, many years ago that have lasted many,  
21 many years, you know 10, 20 years. So charring would  
22 have that effect for some period of time.

23 I don't think it's a terribly dramatic  
24 effect, but it would have that effect. Those are my  
25 slides.

1 MR. FREIDIN: Q. Is there any final  
2 comment regarding the relationship between renewal and  
3 wildlife that you would like to make?

4 MR. HOGG: A. Well, a very quick  
5 comment. In summary, renewal will affect habitat for  
6 wildlife. The Ministry judges the significance of  
7 these and other effects in terms of the achievement of  
8 our objectives of maintaining viable wildlife  
9 populations or meeting more quantitative objectives for  
10 some species.

11 Our current real life concerns of effects  
12 of renewal on wildlife are site-specific. In most  
13 cases actions taken during renewal to protect or  
14 promote a wildlife interest are a follow through in a  
15 harvest decision. In a very few cases the biologist  
16 will ask for or require that natural or artificial  
17 regeneration occur on a specific site.

18 Q. Thank you. Mr. Clark.

19 MR. FREIDIN: Mr. Chairman, can we mark  
20 as the next, overhead -- four documents which will be  
21 used -- which are the hard copy of overheads which will  
22 be used by Mr. Clark.

23 THE CHAIRMAN: That will be Exhibit 576.

24 ---EXHIBIT NO. 576: Hard copy of overheads to be used  
25 by Mr. Clark in his  
evidence-in-chief.



1

2

THE CHAIRMAN: Perhaps at this point, Mr.  
Freidin, we could take a short break--

4

MR. FREIDIN: Sure.

5

6

THE CHAIRMAN: --before we start Mr.  
Clark. We will take 15 minutes. Thank you.

7

---Recess taken at 3:00 p.m.

8

---On resuming at 3:25 p.m.

9

THE CHAIRMAN: Thank you. Be seated,  
please.

10

11

Ladies and gentlemen just before we  
continue, we have been advised by Mr. Hanna that he  
will in fact be attending tomorrow morning and will be  
ready to commence his examination in the afternoon at  
which time we reach him.

12

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15

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Thank you.

17

MR. FREIDIN: Q. Mr. Clark. I  
understand that you are looking forward to this  
evidence, Mr. Clark, because it will be the last time  
you give any evidence-in-chief until Panel 17.

18

19

20

21

MR. CLARK: A. God willing.

22

Q. And I understand you want to be brief  
as a result?

23

24

A. Very brief.

25

Q. All right. What's the purpose of

1 your evidence?

2 A. Well, there is three main purposes to  
3 my evidence, and the first is simply to identify the  
4 range of potential socio-economic effects of the  
5 activities of renewal, and in that I am referring to  
6 both site preparation and regeneration on the  
7 socio-economic environment.

8 The second purpose is to identify in  
9 generic terms the activities or measures that can be  
10 taken to prevent, or at least to enhance positive  
11 effects of renewal and, on the other hand, to prevent  
12 mitigate, minimize, or remedy the adverse effects of  
13 renewal.

14 And the third purpose which I would like  
15 to stress is to present the evidence on effects and  
16 mitigative measures from the perspective of a local  
17 manager at the management unit level.

18 Q. Now, are there any comments you would  
19 like to make concerning the way in which your evidence  
20 was prepared?

21 A. Well, I have very, very few comments  
22 simply because the approach that I used in putting the  
23 information together and also displaying it is the same  
24 approach that I used in Panel 10.

25 And the main points are that the

1 socio-economic environment is defined in terms of the  
2 values and concerns of stakeholders, that the values  
3 and concerns of stakeholders and the potential effects  
4 of renewal had been defined on the basis of my  
5 experience, the experience of other field staff within  
6 the Ministry of Natural Resources, and on the basis of  
7 the evidence that's been previously presented by the  
8 other panel members on this panel.

9 So I don't intend to discuss it any  
10 further than that, and the same comments that I made  
11 with respect to Panel 10 apply in this instance as  
12 well.

13 Q. I understand that in terms of the  
14 socio-economic effects of herbicides which are used in  
15 site preparation, that will be left to Panels 12 and  
16 13?

17 A. That is correct. And of course  
18 that's currently under consideration at this time and I  
19 will not be discussing it here.

20 Q. Now, are there any general messages  
21 concerning your evidence that you would like to draw to  
22 the attention of the Board?

23 A. Yes. There are four messages I would  
24 like to speak to, and before I do I want to emphasize  
25 one of the reasons I am doing this and; that is, simply

1       when we went through the process of putting this  
2       information together and putting it on the tables, it  
3       became clear to me that when you went through the  
4       tables without any preamble you would get the  
5       impression that there were a large number of potential  
6       negative effects, particularly as related to the  
7       various stakeholder groups, and it seemed to me in that  
8       context that you might well get the wrong impression  
9       about what the overall effect in a socio-economic  
10      context of renewal is.

11                       So what I would like to do is just talk  
12      in general terms and then I will be referring to one  
13      table in particular to highlight some of the other  
14      relationships that I think are important.

15                       Can you read that?

16                       Q.   (nodding affirmatively)

17                       A.   Well, the first message is that all  
18      of the techniques used in preparing a site for  
19      renewal - and I think much of this is self-evident from  
20      the evidence you heard from previous witnesses - all of  
21      the techniques used in preparing a site for renewal  
22      described in the previous evidence are intended to  
23      facilitate rapid, healthy regrowth of the forest and  
24      are designed to minimize adverse environmental effects.  
25      And that's something that it's I think important to



1 keep in mind when you look at the tables that we have  
2 identified in the text.

3 The second point under message one is  
4 simply that site preparation in general can be viewed  
5 as a positive mitigative measure or action which, in  
6 conjunction with regeneration, minimizes many of the  
7 potential effects of harvest or similar disturbance,  
8 thereby enhancing the socio-economic environment. And  
9 I think that's really the keystone of much of the  
10 evidence that I am presenting.

11 The second message is simply that in the  
12 short term certain site preparation activities may  
13 result in negative effects on the socio-economic  
14 environment, and those are the effects that I have  
15 identified in the tables and I will be referring to a  
16 number of those very briefly when I am complete --  
17 finished with these messages.

18 The second point under message two is  
19 that in many cases the potential negative effects of  
20 site preparation may be similar and additive to those  
21 of harvest, and that message I think has also been  
22 identified by other panel members dealing with the  
23 aquatic and terrestrial environment.

24 And I make reference, for example, to  
25 erosion and sedimentation as examples that have already

1       been given to you by Mr. Hogg and Dr. Allin, and visual  
2       disturbance which is one that -- the whole issue of  
3       aesthetics was one that was dealt with in harvest and  
4       also reoccurs in this evidence as well.

5                       The third general message, the potential  
6       adverse socio-economic effects of site preparation  
7       activities are relatively minor, of short duration and  
8       can usually be prevented or minimized by the  
9       application of professional forestry practice. And  
10      in -- that is, undertaking site preparation activities  
11      in conformity with the requirements of TMPs approved by  
12      MNR.

13                     And, in that context, I am talking about  
14      the timber management planning process, the area of  
15      concern planning process, the use of implementation  
16      guidelines and the appropriate choice of silvicultural  
17      practice that other panel members have identified in  
18      their evidence.

19                     The last message really I think reaffirms  
20      everything I have said so far. The positive motive for  
21      renewal is obvious, re-establishment of the forest  
22      cover is the most important step in preventing and  
23      minimizing the adverse socio-economic effects of  
24      harvest and site preparation.

25                     In addition - and I want to stress this

1       because I think it is very, very important in reviewing  
2       the balance of the material that's included in the  
3       tables - in addition, regeneration in conjunction with  
4       other silvicultural practices ensures the multiple  
5       values and yields of the forest can be sustained  
6       indefinitely.

7                       And those are the four main messages or  
8       the context within which I believe the tables I have  
9       included should be interpreted.

10                      (dropped microphone)

11                      It's a good thing this is my last panel  
12       for a while.

13                      Q.   You indicated, Mr. Clark, that you  
14       wanted to refer to one table to perhaps expand somewhat  
15       on the four main messages?

16                      A.   That's correct.   I would like to draw  
17       your attention to page 828 in Volume II of the witness  
18       statement, and I am referring to Section 3.2 and  
19       dealing with commercial tourist operators.

20                      I have chosen this particular table  
21       because -- for a number of reasons and I just want to  
22       highlight them here.   First of all, the first point I  
23       want to make when you look at that table, is that  
24       notwithstanding the fact that site preparation  
25       activities ultimately assist in the regeneration of the

1 site, tourist operators as a group obviously have  
2 concerns about that activity and they relate to such  
3 things as visual disruption or aesthetics, remoteness  
4 and the issue of noise, accessibility and user  
5 conflicts.

6 They have concerns and have expressed  
7 these concerns to us on occasions concerning fish, fish  
8 habitat, water quality, their concerns about  
9 cultural/heritage values, as well as capital assets,  
10 recreational opportunities and human safety. Those  
11 concerns you will note relate specifically to site  
12 preparation.

13 The other point I want to make in that  
14 table is that those same concerns are shared by many of  
15 the other stakeholders. So that while there is a large  
16 number of tables, I don't think it is necessary or  
17 appropriate to go through them all because, to a large  
18 extent cottagers, naturalists, hikers, anglers and  
19 local communities share many of the same concerns and  
20 this was one table that served to highlight a number of  
21 them.

22 The last point I would make is that I  
23 think tourist operators and many of the other  
24 stakeholders -- there's a statement concerning  
25 regeneration activities which simply says that it's a



1 positive action which mitigates or remedies the  
2 potential adverse effects of harvest in site  
3 preparation activities. And because it is generally  
4 viewed that way, there are no specific details on the  
5 tables concerning regeneration, and that is the case  
6 with many of the stakeholders.

7 Now, if I could just take you to the next  
8 page, page 829, Table 2, I just want to run through  
9 this very, very quickly to confirm some of the things  
10 that I said in my general messages.

11 This table deals, first of all,  
12 specifically with site preparation as opposed to either  
13 renewal or regeneration, and if you look at the first  
14 concern, aesthetics, it is a similar concern that was  
15 identified relative to harvest. And the point I want  
16 to make here -- and you will find a reoccurring theme  
17 on these tables, and the one that I mentioned under the  
18 four messages was that the effects of site preparation  
19 relative to aesthetics, at least in the short term, are  
20 similar and may be additive or augment the effects of  
21 harvest operations. And you will find that many of the  
22 potential effects that I have identified on the tables  
23 fall into that category.

24 They are not particularly new effects,  
25 they are simply effects being revisited because of a

1 different silvicultural practice that's being employed.

2                   The next point I wanted to make was that  
3 as the potential effects are similar to those of  
4 harvest, the majority of measures that are taken to  
5 either prevent, minimize or mitigate effects are  
6 implemented at the time of harvest. And what that  
7 really means is that the same -- many of the same tools  
8 and many of the same range of actions or potential  
9 actions that can be taken to either prevent or mitigate  
10 effects can be relied on in dealing with the effects of  
11 site preparation.

12                   And I would stress, I guess the last  
13 point I would make with regard to this particular table  
14 is that the effects of renewal have to be viewed in the  
15 context of other silvicultural activities and, in this  
16 context most notably harvest, that when you are making  
17 a decision regarding a particular value or area of  
18 concern you are obviously looking at not only harvest  
19 or renewal, but you are looking at the combination or  
20 the potential effect of both of them.

21                   And as I point out, in this instance you  
22 would tend to use the same tools and many of the same  
23 actions to alleviate or prevent that -- any problem  
24 that might arise or have been identified by, for  
25 example, a tourist operator.

1                   On page 830, which is the next page of  
2     the table, I wanted to stress once again the concern  
3     here relates to fish, fish habitat and water quality.  
4     And you have heard a considerable amount of evidence  
5     from Dr. Allin concerning this effect.

6                   The point I want to make here, once  
7     again, is that the effects are similar to and may  
8     augment the effects of harvest operations. So that  
9     many of the same tools in terms of, for example, the  
10    use of the Fish Guidelines and the Code of Practice as  
11    well as specific actions that might be taken on the  
12    site, are the same as those that would be employed in  
13    dealing with effects as they relate to harvesting.

14                  The last point I would make is that fish,  
15    fish habitat and water quality are obviously effects on  
16    the aquatic environment, but they have or can have a  
17    secondary effect that is reflected in the  
18    socio-economic environment in that a reduction in the  
19    quality and quantity of fish habitat may reduce angling  
20    success, user satisfaction and could ultimately result  
21    in loss of clientele or decreases in operator income,  
22    the very last point on the page.

23                  So really all I am saying here is, I  
24    think when you read the tables, in general you have to  
25    keep those kinds of comments in mind and there is a

1 considerable amount of similarity in terms of the  
2 effects from one stakeholder group to the other.

3 The last thing I would like to say in  
4 general about the tables is that, as I say, having gone  
5 through them all, you may be inclined to reach the  
6 conclusion that there is a considerable number of  
7 effects and I would ask that in doing so, you go back  
8 to the introduction and to my four points where I have  
9 indicated that, I believe in a general way, the effects  
10 are relatively short term and not significant as a  
11 rule.

12 MR. FREIDIN: That is the panel-in-chief,  
13 Mr. Chairman. And perhaps before we commence  
14 cross-examination, I could speak to a matter which  
15 arose on April the 27th, that was the day that I, at  
16 the request of the Board, made a statement to clarify  
17 the relationship between Exhibit 489, which is the  
18 draft interim Direction for Application of Timber  
19 Management Guidelines for the Provision of Moose  
20 Habitat and the provisions of Exhibit 310 which are the  
21 Timber Management Guidelines.

22 I apologize for not dealing with this  
23 matter I believe a week ago last Friday. As requested  
24 by the Board, I spoke to Mr. Tuer whose comments I  
25 think was the catalyst for the urgency of dealing with



1 the matter and he had no objection to me taking a  
2 little bit longer.

3 What I would like to file, Mr. Chairman,  
4 at this time is a letter that I have written dated May  
5 the 11th, 1989 and is written to -- it was mailed to  
6 all of the people on the full-time correspondence list.  
7 It has attached to it four pages which contain the  
8 revisions to both the Interim Direction which is  
9 Exhibit 489 and revisions to the Training Messages in  
10 relation to the Moose Habitat Guidelines and the Fish  
11 Habitat Guidelines.

12 I can advise you at this time, Mr.  
13 Chairman, that there was one deletion from the Interim  
14 Direction and two of the Training Messages were the  
15 subject matter of change and the revisions have been  
16 provided here in a form that hopefully they will be  
17 self-explanatory and you won't have to go back and look  
18 at the original.

19 Perhaps we can give that an exhibit  
20 number and then I will speak to it a bit further.

21 THE CHAIRMAN: All right. Exhibit 577.

22 MR. FREIDIN: I think all the parties  
23 will have their copies.

24 ---EXHIBIT NO. 577: Four page document consisting of  
25 revisions to Interim Direction and  
Training Messages.

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MR. FREIDIN: Mr. Chairman, you will

recall that the right to cross-examine was reserved by the parties. I have spoken to most of the counsel who are here on a full-time basis and as indicated in the letter, at the present time Forests for Tomorrow and the Ministry of the Environment have indicated they have no intention or no desire to ask questions in relation to the Exhibit 577.

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By the way, basically what the document

says is that the Ministry stands by the statement that I made on the record and has nothing really to add to that statement. The only thing which is new, over and above what I said on the record, are the revisions.

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The industry OFIA and OLMA will hopefully

be in a position to advise me at the end of the day whether they wish to ask me any questions and Mr.

Hanna, who I spoke to earlier today, indicated that he hoped to be in that position later today and I guess I will speak him tomorrow.

21

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25

You will note from the letter that I have

suggested to the full-time parties who receive this correspondence that if they wish to ask questions that I thought Wednesday would have been an appropriate time. I had chosen Wednesday because at the time I

1 wrote the letter Forests for Tomorrow's indication was  
2 that at that point in time they didn't want to ask  
3 questions and Ms. Swenarchuk said she wouldn't be in  
4 here on Thursday in any event, so I chose the  
5 Wednesday.

6 I think perhaps it might be best if we  
7 just sort of let it ride until I do hear from counsel  
8 and perhaps in the interim the Board can take a look at  
9 this document and it may very well be that the Board  
10 may wish to have some clarification, notwithstanding  
11 some of the parties might not, and perhaps we could  
12 again visit this matter perhaps some time tomorrow.

13 THE CHAIRMAN: Who would be the  
14 appropriate witness to question on this, Dr. Euler?

15 MR. FREIDIN: I think if there was an  
16 interest in dealing with these matters, because it in  
17 fact includes the final training messages, that it  
18 would be my intention to make not only Dr. Euler but  
19 Mr. McNicol available to answer questions.

20 THE CHAIRMAN: Very well.

21 MR. FREIDIN: So...

22 THE CHAIRMAN: And in any event we will  
23 try and take care of this matter this week if we can.

24 MR. FREIDIN: Well, if we can, that's  
25 right. And I think I would like to deal with it as

1 early tomorrow as possible because both Mr. McNicol and  
2 Dr. Euler are not really -- well, I guess Mr. McNicol  
3 will be here, but Dr. Euler has made a special trip  
4 here in case this matter should proceed this week.

5 If it becomes inconvenient to do it this  
6 week, it might be something that we could deal with in  
7 Toronto but, again, I think maybe we just should wait  
8 until tomorrow and see what sort of reaction we get.

9 THE CHAIRMAN: Very well.

10 MR. FREIDIN: And if I might file a  
11 number of interrogatories from Panel No. 11 obviously  
12 to which no questions will be directed, and I will just  
13 read them to you and perhaps they could be marked as an  
14 exhibit.

15 These are interrogatories on Panel No.  
16 11: From Forests for Tomorrow, Interrogatories 1, 9,  
17 17, 24, 25, 28, 29, 30, 34, 36, and 37 --

18 MS. CRONK: Mr. Chairman, could I ask for  
19 that list again.

20 MR. FREIDIN: Sure. 1, 9 -- yes, I am  
21 giving out a package, we'll get there. 1, 9, 17, 24,  
22 25, 28, 29, 30, 34, 36, 37.

23 From the Ministry of the Environment,  
24 Interrogatories --

25 THE CHAIRMAN: Just a moment. Do you



1 want all of the interrogatories with respect to a  
2 particular party as one exhibit?

3 MR. FREIDIN: No, I don't think so.

4 THE CHAIRMAN: Okay.

5 MR. FREIDIN: Ministry of the  
6 Environment, 3, 4, and 16. And OFIA/OLMA  
7 Interrogatories 3, 15, and 17.

8 THE CHAIRMAN: Okay. Those can all be  
9 Exhibit 578.

10 MR. FREIDIN: (handed)

11 ---EXHIBIT NO. 578: Forests for Tomorrow,  
12 Interrogatory Nos. 1, 9, 17, 24,  
13 25, 28, 29, 30, 34, 36, and 37;  
14 Ministry of the Environment, 3, 4,  
and 16; and OFIA/OLMA  
Interrogatories 3, 15, and 17.

15 THE CHAIRMAN: Ms. Cronk?

16 MS. CRONK: If I could have just one  
17 minute, sir.

18 Thank you, Mr. Chairman.

19 CROSS-EXAMINATION BY MS. CRONK:

20 Q. Gentlemen, I propose, at least it is  
21 my hope not to be very long, that extends some  
22 considerable comfort to me and I hope to you as well.

23 But Mr. Clark perhaps the best place to  
24 start is with you if you don't mind, since your  
25 evidence was last presented and because I don't want to

1 be the one to interfere with your desire not to be  
2 complete for some time to come.

3 MR. CLARK: A. Oh good.

4 Q. In Volume II to which you directed  
5 the Board's attention where you have the various tables  
6 set out on the socio-economic effects, could I ask you  
7 to go to page 817 if you would, please.

8 I have a number of questions, Mr. Clark,  
9 really by way of clarification because I wish to be  
10 clear that I understand the import of these tables and  
11 you have covered some of them in the brief remarks that  
12 you made in your evidence-in-chief, but others you did  
13 not.

14 As I understand it, the way the tables  
15 themselves have been constructed - and please correct  
16 me if I'm wrong - throughout all of the tables, is that  
17 in the first column on the left you have listed --  
18 expressed what you understand to be expressed concerns  
19 by various interest groups. That's what we find on the  
20 left; is that correct?

21 A. That's correct.

22 Q. And then in the middle column, as I  
23 understand it from your written explanation of the  
24 tables, that is a description or a recital if you will,  
25 again throughout all of the tables, of the potential

1 effects of various renewal activities?

2 A. That is correct.

3 Q. All right. And then finally on the  
4 right-hand column you have explained to the Board that  
5 those set out the various measures that can be taken  
6 either way of mitigation, remedial action or the like.  
7 Is that correct?

8 A. Yes, that's correct.

9 Q. All right. Am I also correct, Mr.  
10 Clark, in reviewing the contents of all of these tables  
11 that they in essence tell us nothing about the  
12 frequency of occurrence of any of these expressed  
13 events or effects?

14 A. That is generally true.

15 Q. All right. They are not intended to  
16 speak to the frequency of occurrence and they in fact  
17 do not; is that so?

18 A. That is correct.

19 Q. All right. And am I also correct in  
20 the same vein - and please understand, Mr. Clark, I say  
21 this without criticism, but I want to make sure I  
22 understand what I am to take from them - that they as  
23 well tell us nothing with respect to the intensity of  
24 the effect should it occur?

25 A. No, they do not.

1 Q. And in the same vein, am I correct  
2 that they tell us nothing nor are they intended to tell  
3 us anything about the likelihood of occurrence of the  
4 effects set out in the tables?

5 A. Generally they don't, although as I  
6 indicated in my general remarks, I did make statements  
7 in the introductory pages of the material about the  
8 general occurrence and significance of them, but I  
9 think as a rule what you are saying is largely correct.

10 Q. All right. I suppose in the end the  
11 point I come to is this, Mr. Clark: That would it be  
12 fair of me to suggest that we should be looking at the  
13 effects set out in all of these tables as a listing of  
14 possible effects not probable effects?

15 A. Very definitely. The word was used  
16 with great frequency in the text and in the tables  
17 specifically for that reason. And I would also like to  
18 say that you may recall when I was talking about my  
19 purpose in putting the information together was to try  
20 and identify concerns and potential effects from the  
21 perspective of the local manager at the management unit  
22 level and it is somewhat difficult to generalize across  
23 all management units and, therefore, we talked about  
24 potential effects and did not necessarily identify in  
25 specific terms their frequency or intensity.



1 THE CHAIRMAN: Is the word possible  
2 therefore equated with potential?

3 MR. CLARK: Yes, I believe so.

4 MS. CRONK: Thank you, Mr. Chairman.

5 Q. And flowing from that, Mr. Clark,  
6 would it also be fair to suggest to you that there is  
7 no attempt made in these tables to measure whether the  
8 risk of any particular recited effect is low, medium,  
9 high?

10 A. No, there is no attempt to do that.

11 Q. All right. And similarly there is no  
12 attempt, I suggest - and I would ask for your  
13 confirmation - to assess or to opine on whether these  
14 effects are reasonable in any given set of  
15 circumstances?

16 A. No, there is not. And I want to  
17 harken back to, I think, fairly extensive comments that  
18 I have made in Panel 10 regarding this particular  
19 issue. There seemed to be a lot of nos here and I  
20 stressed at that time, and I want to stress again, the  
21 notion that we deal with those issues on a case-by-case  
22 basis through the timber management planning process at  
23 the local level.

24 And it was with that in mind that I  
25 attempted simply to array, in as complete a fashion as

1 possible, the potential or probable effects that might  
2 occur, but went no further.

3 Q. May I be clear then, because you have  
4 now used both words which will ultimately lead to my  
5 confusion if it hasn't already. You said possible or  
6 probable effects. I had understood you to say --

7 A. Oh, I'm sorry I meant potential, or I  
8 think we agreed on potential or probable -- or  
9 possible, sorry.

10 Q. I have only been here three weeks and  
11 already the transcript is going to be a mess. May I  
12 just clarify this.

13 When you have used the word potential as  
14 the Chairman suggested in the tables were you referring  
15 to probable, possible or anything inbetween?

16 A. Well, I was referring to potential  
17 but I think what I said is that it means it's a  
18 possible effect.

19 Q. All right. And to go back to my  
20 earlier question, did you in any way intend, in  
21 preparing this compendium, to suggest that any one or  
22 more of these effects to be probable; are they not  
23 simply possible effects?

24 A. That was the -- I think I agreed to  
25 that, yes.

1 Q. And perhaps then as a further comment  
2 with respect generally to how we should use and how we  
3 should interpret these tables, you have told the Board  
4 that generally speaking, at least in the messages that  
5 you have outlined for the Board, generally speaking the  
6 effects of renewal and regeneration are positive?

7 A. That's correct.

8 Q. All right. And would I be fair in  
9 suggesting that many of the items listed in these  
10 tables reflect really perceived concerns as distinct in  
11 many cases from actual concerns?

12 A. Very definitely. And I once again  
13 harken back to what I said with regard to my purpose  
14 which was to provide a range of potential effects from  
15 the perspective of the local manager at the management  
16 unit level. And when you work at that level, you are  
17 often dealing with a perceived effect on the part of a  
18 particular stakeholder and inasmuch as these can be  
19 very real to them, and so that they are the meat and  
20 potatoes of much of what we deal with in timber  
21 management planning.

22 Q. And it is on that basis that they are  
23 taken into account?

24 A. That's correct.

25 Q. And would you agree with me finally,

1 Mr. Clark, that when an assessment is made regarding  
2 the significance of the effects documented in these  
3 tables, it will be important at the end of the day to  
4 consider how probable they in fact may be in the area  
5 of the undertaking?

6 A. That's correct.

7 Q. Thank you. Those are my questions  
8 for you, sir.

9 A. Thank you.

10 Q. I have a number of questions relating  
11 generally to the renewal program as it relates --  
12 renewal efforts, let me put it that way, as it relates  
13 to the FMA program and I have taken a look at not one  
14 but nine CVs in that connection.

15 And, Mr. Hynard, subject to your telling  
16 me that it's inappropriate for me to put the questions  
17 to you, I would like in first instance to do that.

18 Could I ask you, however, simply for  
19 convenience to give me the courtesy of exchanging  
20 places with Mr. Elliott so that I am not looking always  
21 to the left. If that would be convenient, I would be  
22 grateful to you.

23 MR. HYNARD: A. Certainly.

24 Q. Thank you, Mr. Elliott.

25 THE CHAIRMAN: My friend up here has an



1 objection to your last statement.

2 MS. CRONK: What was that? Which last  
3 statement, sir?

4 THE CHAIRMAN: Not wanting to look to the  
5 left.

6 MS. CRONK: Oh, I see. I'm glad I'm not  
7 under oath. If it's any consolation, I very frequently  
8 look to the left, but we will leave that alone.

9 Q. Thank you, Mr. Elliott. I don't  
10 think you want to pull that up too much further, Mr.  
11 Hynard, you are going to lose.

12 MR. HYNARD: A. Okay, I am all ready.

13 Q. Thank you. Mr. Hynard, having asked  
14 you to make the move, let me now be sure that my  
15 judgment was appropriate that I put the questions to  
16 you. As I understand your resume, you in the past have  
17 functioned as the Ministry's FMA co-ordinator or at  
18 least did so for a period of one or two years. Am I  
19 correct in that?

20 A. Yes, that's right, 15 months.

21 Q. Right. And in that capacity or at  
22 least in performing your responsibilities in that  
23 capacity, did you become familiar with the terms  
24 generally of the FMA agreements that were introduced  
25 and have been entered into with various members of

1 industry?

2 A. Yes, I did.

3 Q. All right. And, in particular, does  
4 that extend to a familiarity with respect to the  
5 provisions of those agreements as they relate generally  
6 to renewal activities?

7 A. With respect to the divisions, did  
8 you say?

9 Q. No, I'm sorry. In particular, does  
10 that familiarity extend to a familiarity with the  
11 provisions of the agreements as they relate to renewal  
12 activities?

13 A. Provisions. Yes, it does.

14 Q. All right, thank you. It would seem  
15 to me, Mr. Hynard - and I would ask for your views on  
16 this - as a general statement that the FMA agreements -  
17 and I am speaking of them at large - in essence, assign  
18 certain tasks in the area of renewal activities to the  
19 industry companies and assign certain tasks to the  
20 Minister or the Ministry. There is a division of  
21 tasks.

22 Is that a fair description of how they  
23 work?

24 A. Very clearly so.

25 Q. All right. And I would ask you to

1 bear in mind that my questions are directed  
2 particularly and will be, throughout this  
3 cross-examination, on this issue to renewal activities  
4 and the provisions of the agreements in that regard.

5 And under the terms of the agreement,  
6 would it be fair to say then that there is in essence a  
7 division of responsibility in the area of renewal  
8 activities as between the companies that enter into the  
9 agreements and the Minister on the other hand?

10 A. Yes, that's fair to say.

11 Q. All right. And would you agree with  
12 me as well, Mr. Hynard, that in many instances the  
13 tasks assigned are inter-related, that there is a  
14 relationship, they work together in terms of the tasks  
15 that industry has on the one hand and those that the  
16 Minister has on the other?

17 A. That's right, they are.

18 Q. Right. And in some respects is it  
19 also fair to suggest that the ability of industry to  
20 perform the tasks assigned to it are in part dependent  
21 on the fulfillment or performance by the Minister of  
22 the tasks assigned to him?

23 Would you like to come back to that  
24 perhaps. I could come back with specifics, if you  
25 will.

1 A. Yes. If you could give me a  
2 specific, please.

3 Q. All right. Well, perhaps the best  
4 way to do this is to provide you with a copy of the  
5 document itself.

6 MS. CRONK: Mr. Chairman, what I propose  
7 to do: Included in Panel 16, which is not yet before  
8 you, of the Ministry's evidence is a generic form of an  
9 FMA agreement with corporate names deleted and the  
10 like, but it contains the basic skeleton of the  
11 provisions in all of the agreements and I would like to  
12 file that now, if I could.

13 THE CHAIRMAN: Okay. We will file that  
14 as Exhibit 579.

15 ---EXHIBIT NO. 579: Copy of generic form of FMA  
16 agreement containing basic  
17 skeleton of provisions with names  
of parties deleted.

18 MS. CRONK: (handed) That was 579?

19 THE CHAIRMAN: That's correct.

20 MS. CRONK: Thank you.

21 Q. Mr. Hynard, in looking at this  
22 document, can you identify it for us as being, as I  
23 have described it, a generic form of FMA agreement  
24 containing really the base provisions of the agreements  
25 with the deletion of the names of any parties?



1 MR. HYNARD: A. Yes, that's what it is.  
2 That is what it certainly appears to be.

3 Q. And I'm going to suggest to you, Mr.  
4 Hynard, specifically that there are two primary  
5 expressed objectives of the FMA agreements reflected in  
6 the language of the documents themselves. And the  
7 first I suggest - and I would ask whether you agree or  
8 disagree - the first stated objective is to assist in  
9 the provision of a continued supply of forest products.  
10 Is that correct?

11 A. That's correct.

12 Q. All right. And to assist the Board,  
13 is that found in the first recital of the agreement?

14 A. I don't see the word assist. I  
15 think -- when I think of the purpose of the agreement,  
16 I think of the whereas statement on that first page of  
17 the document.

18 Q. The first whereas statement?

19 A. That's right.

20 Q. All right. And if we look at that,  
21 in the second, third and fourth lines, does that  
22 confirm the objective I have just suggested to you,  
23 that it's to provide for a continuous supply of forest  
24 products from the lands designated under the agreement  
25 to an existing wood processing plant of the company to

1 the agreement?

2 A. Yes, that is the first purpose.

3 Q. All right. And continuing on in the  
4 same paragraph, would it be fair to suggest that the  
5 second purpose is outlined there as well; that being to  
6 ensure that the forests on such lands are harvested and  
7 regenerated, to use the language of the agreements, to  
8 produce successive crops of timber on a sustained yield  
9 basis?

10 A. Yes, that is the second purpose.

11 Q. All right. And would it be fair to  
12 suggest that those are the primary objectives of the  
13 agreements as set out in that paragraph?

14 A. Yes. Certainly I believe them to be.

15 Q. All right. Regeneration then, just  
16 from the introduction of the agreement if you will, is  
17 an important focus of the agreement?

18 A. Yes, it is.

19 Q. All right. And that obviously I  
20 suggest is because regeneration directly affects the  
21 supply of timber both current and in the future?

22 A. It certainly does.

23 Q. All right. I'm going to ask you, Mr.  
24 Hynard, quite simply with reference to this document,  
25 if it will be of assistance to you or not, as you

1 prefer, to list for the Board in a summary way what the  
2 tasks are assigned to industry members under these  
3 agreements with respect to renewal and what the tasks  
4 are assigned to the Minister and I'm going to put some  
5 suggestions to you in that regard.

6 And for that purpose I have asked that  
7 the flip chart be brought into the room and I wonder if  
8 you could bring that up beside you and we will do it  
9 that way.

10 A. You would like me to list them on the  
11 flip chart.

12 Q. Yes, and I will try to assist you in  
13 that.

14 A. All right.

15 Q. I think you are going to have to turn  
16 that just a bit, Mr. Hynard, in order for the Board to  
17 see it. Mr. Hynard, if we could do this in --

18 A. Perhaps I don't need the mike. Can  
19 you hear me all right.

20 Q. I think the microphone Mr. Clark is  
21 holding for you is mobile, if you wanted to use that  
22 one.

23 A. What would you like me to do?

24 Q. Mr. Hynard, I'm going to ask you on  
25 the first page, if you would, to list for the Board

1 those tasks or what I have termed tasks assigned to the  
2 industry under the FMA agreements with respect to  
3 renewal.

4 So perhaps if we could label this one at,  
5 least at the outset, renewal related tasks assigned to  
6 industry.

7  
8 A. Renewal Related Tasks Assigned to  
9 Industry. Well, I would say that the first one would  
10 be to conduct renewal operations in accordance with the  
11 groundrules, and the groundrules the Table 1  
12 silvicultural groundrules lays out the treatment types  
13 according to present working group, proposed working  
14 group, site type and so on.

15 So let's call the first one to conduct  
16 renewal operations in accordance with the groundrules.  
17 And I should --

18 Q. And if I could -- sorry, go ahead.

19 A. I should add also, in accordance with  
20 the groundrules and the timber management plan because  
21 I don't want to leave the impression that they would be  
22 different.

23 Q. Could I stop you before you go to  
24 your next point, Mr. Hynard. Is it fair to say that  
25 involved in that first task is a commitment under the



1 terms of the FMA agreements by let's call it the  
2 company, the industry company to conform with the  
3 groundrules, that commitment is given under the  
4 agreement?

5 A. Yes, that commitment is there. When  
6 they conduct operations, they are to conduct them in  
7 accordance with the groundrules and there are details  
8 about deviation from groundrules. But, yes, that's a  
9 fair statement.

10 Q. All right. And what in your view  
11 then is the second task assigned to industry under the  
12 FMAs with respect to renewal?

13 A. With respect to renewal, I would say  
14 the second thing is to assess -- in the fifth year  
15 following harvest or treatment, to assess whether or  
16 not the stocking of regeneration has met the standards  
17 prescribed in the groundrules.

18 So let's call No. 2 regeneration  
19 assessments.

20 Q. Thank you. And is there a third?

21 A. Yes. In the event that those  
22 regeneration assessments indicate a failure; that is,  
23 that the stocking of that particular project area has  
24 not met the standards specified in the groundrules, it  
25 is the obligation of the company to reforest that area

1 at its own expense.

2 So let's call task No. 3 regeneration of  
3 treatment failures at company expense. And I should  
4 point out to the Board this is pretty much a  
5 simplification, but it contains the basic elements.  
6 The basic elements there are accurate.

7 Q. And is there, in your view, anything  
8 else that is a task specifically assigned to the  
9 company under the FMAs with respect to renewal?

10 A. Yes, and that is that it is the  
11 responsibility of the company to request free to grow  
12 surveys from the Ministry.

13 In other words, if their regeneration --  
14 if their stocking assessment results have indicated  
15 that the treatment area is adequately stocked, when  
16 they believe that that area is free to grow or ready  
17 for free to grow assessment, then they request the  
18 Ministry to conduct a free to grow survey on the area.

19 So let's call task No. 4...

20 Q. Initiation of free to grow  
21 assessment?

22 A. Yes. Request for FTG survey, let's  
23 call it that.

24 Q. That's fine. And could I suggest to  
25 you, Mr. Hynard, that there is another and that is an

1 obligation or a task assigned to the companies under  
2 the agreements to promptly regenerate if the amount of  
3 the total area harvested in any applicable period under  
4 the agreement exceeds the agreed upon annual allowable  
5 cut?

6 A. Yes, that's right. There is a  
7 provision that if the company's harvest is to exceed  
8 110 per cent of the maximum allowable depletion, that  
9 the company must reforest any surplus over and above  
10 that at its own expense. That's correct.

11 Gee, there are some more, let's flip the  
12 page.

13 MR. MARTEL: Before you go on, can I ask  
14 a question. Can you exceed your allowable cut?

15 MR. HYNARD: Yes, that's a good question.  
16 I can't envisage how that would occur because -- and I  
17 think probably, Mr. Martel, that that condition of the  
18 agreements originates from the old timber management  
19 plan -- forest management planning days and not from  
20 the current process.

21 For example, the Ministry of Natural  
22 Resources would not, I don't believe -- well, would not  
23 normally grant approval for cutting in excess of the  
24 maximum allowable depletion. And without the approval  
25 in a timber management plan, the company could not do

1       it because its other obligation is conduct its  
2       operations in accordance with that timber management  
3       plan as approved.

4                       So I think you have a very, very good  
5       point there, that that could not normally occur. Now,  
6       there may be exceptions and I am thinking if you had a  
7       working group or a forest unit that was being heavily  
8       attacked by budworm and you wanted to capture as much  
9       of that wood as you could while it was still green, and  
10      over-cutting maximum allowable depletion because the  
11      wood would be lost anyway--

12                     MR. MARTEL: No doubt.

13                     MR. HYNARD: --and at the same time take  
14      another forest unit or working group and undercut  
15      deliberately during the same period for the purposes of  
16      evening out woodflow over the long haul.

17                     MR. MARTEL: Does that occur in a  
18      blowdown as well where you had to salvage? How would  
19      that fit into the overall approach?

20                     MR. HYNARD: Blowdown normally isn't of a  
21      scale that would fit into that, and blowdown is  
22      depletion by natural causes anyway and salvage within a  
23      depleted area is not further depletion.

24                     MS. CRONK: Q. Were the kind of  
25      circumstance that you described to occur, am I correct



1       that the agreements provide what is described as a  
2       prompt regeneration obligation on the company?

3                     MR. HYNARD:   A.   Yes, that's true.

4                     Q.   All right.   So that would be No. 5  
5       then.

6                     A.   You are referring there to salvage, a  
7       plan for prompt renewal of an area which has been  
8       devastated by natural causes; were you not?

9                     Q.   No, I'm sorry, I was referring to the  
10      earlier example you gave.

11                    A.   Okay.   Actually we could make a  
12      really long list.

13                    Q.   That's not my intent, Mr. Hynard,  
14      unless you think it appropriate.   What I'm really  
15      interested in are the essential tasks assigned.

16                    A.   Yes.   I would prefer a short list  
17      myself.

18                    Q.   As long as it's accurate I don't care  
19      whether it's long or short, but the essential tasks are  
20      what I am interested in.

21                    A.   Okay.   That one is to reforest  
22      cut-overs in excess of 110 per cent of the MAD at  
23      company expense and, as we pointed out with Mr. Martel,  
24      that's unlikely to occur.

25                    Q.   And is there a sixth that you were

1 going to suggest?

2 A. Yes, and that would be the -- with  
3 respect to NSR lands, the obligation on the part of the  
4 company to reforest NSR lands at a prescribed rate.  
5 That's my whole list, unless you can...

6 Q. Could I suggest one final task. Is  
7 there a provision under the agreements which assigns to  
8 the company responsibility for reforesting if there is  
9 a natural occurrence that is sufficient to prevent or  
10 impede reforestation in the normal course?

11 Is there provision in those circumstances  
12 for the company actually to undertake regeneration?

13 A. Could you refer me to the paragraph  
14 in that generic agreement that you are referring to?

15 Q. Could you look at, in this document  
16 at page 10, Mr. Hynard, if you would, please. Page 10  
17 of the small type and paragraph 24.

18 A. Well, yes, that certainly is a task  
19 that has been assigned.

20 Q. Could we call that reforest at the  
21 request of the Minister?

22 A. Okay. And I have just added the  
23 terms the brush encroachment clause in case we wonder  
24 some day in the future what we really meant there.

25 Q. Thank you, Mr. Hynard. Now, insofar

1 as you are concerned, given your familiarity with these  
2 agreements, are these two pages an accurate description  
3 of the tasks assigned to industry in the area of  
4 renewal under the FMA agreements?

5 A. Certainly the major tasks, yes.

6 MS. CRONK: Could I ask, Mr. Chairman,  
7 then that that be marked as the next exhibit.

8 THE CHAIRMAN: Exhibit 580.

9 MS. CRONK: Mr. Chairman, we will have  
10 that typed up in smaller versions and supply it to the  
11 Board and to the parties.

12 THE CHAIRMAN: Thank you.

13 ---EXHIBIT NO. 580: Handwritten list of renewal  
14 (reserved) related tasks assigned to a  
company under an FMA agreement.

15 MS. CRONK: Q. Now, just looking at that  
16 list of tasks -- or factors, Mr. Hynard, would you  
17 agree with me that the effect of those provisions is to  
18 make the company, the agreement holder, responsible for  
19 the planning and implementation of regeneration and  
20 renewal activities on the FMA lands, the lands covered  
21 by an FMA agreement?

22 MR. HYNARD: A. Well, yes, he is  
23 responsible for the planning and implementation of  
24 renewal activities, yes, in accordance with the  
25 agreement and the management plan.

1 Q. Right. And by he you mean the  
2 company, industry?

3 A. That's correct.

4 Q. All right. Could you then -- could  
5 we then do the same exercise with respect to the tasks  
6 assigned to the Minister, and perhaps you could put up  
7 a fresh page. This then would be renewal related tasks  
8 assigned to the Minister.

9 A. Dave, I'm running out of ink. Is  
10 there anything -- any more markers back there?

11 Q. I have one here, Mr. Hynard.  
12 (handed)

13 Mr. Hynard to speed this up, could I ask  
14 for your agreement or differing views if you have them,  
15 with the suggestion that the first task assigned to the  
16 Minister under these agreements are the provisions  
17 which suggest that the Minister is to supply the FMA  
18 company with nursery stock and seeds as reasonably  
19 required for the company to meet their regeneration  
20 obligations?

21 A. Okay, that's certainly fair. Let's  
22 say to supply nursery stock and seed.

23 Q. All right. So that we are clear as  
24 to how that process works, it is my understanding  
25 that - let's take the case of any given company - once



1 the annual work schedule plan has been approved, the  
2 Minister then, under the FMA agreements, provides  
3 nursery stock and seed to the company in accordance  
4 with the approved annual program; is that correct?

5 A. Annual work schedule, that's right.

6 Q. And that's pursuant to the provisions  
7 in the FMA agreements?

8 A. Yes, that's right.

9 Q. All right. And then, again  
10 addressing ourselves to the Minister's task, would it  
11 also be fair to suggest that the next major task  
12 assigned to the Minister is that which requires or  
13 provides that the Minister will pay the company for  
14 silvicultural treatments in accordance with rates  
15 stipulated in the schedules to the FMA agreements?

16 You're writing it down, does that mean  
17 you agree?

18 A. I agree.

19 Q. Or are you writing something down and  
20 I am not going to like it?

21 A. Oh, no, no, I am just writing down  
22 exactly what you asked me to write down. To pay for  
23 silvicultural treatments. That's absolutely right,  
24 that's one of the obligations.

25 To pay for silvicultural treatments

1 performed by the company at the rates specified in the  
2 groundrules, that's right.

3 Q. Again, Mr. Hynard, concentrating  
4 simply on renewal activities, are there any other tasks  
5 which, in your view, are assigned to the Minister which  
6 should properly be noted on this page?

7 A. Yes, to conduct free to grow surveys  
8 at the request of the company.

9 Q. Fine.

10 THE CHAIRMAN: What about the Minister's  
11 obligation or the Ministry's obligation to approve all  
12 of these proposed activities on the part of the  
13 industry, such as to approve the groundrules, to  
14 approve the silvicultural methods, to approve the  
15 timber management plans?

16 MR. HYNARD: Yes, yes. Well, with  
17 respect to groundrules themselves which lay out all the  
18 details and standards of everything that's going to be  
19 done in the five years, including billing, they both  
20 have obligations or tasks to come to agreement over  
21 those groundrules or the agreement itself falls in  
22 jeopardy.

23 With respect to timber management plans,  
24 it is the responsibility of the company to prepare one  
25 and it is the responsibility of the Minister to approve

1       it or provide a list of alterations to the company that  
2       they must make and then he approves it. So what you  
3       are saying fits into those other areas rather than  
4       strictly renewal.

5                   THE CHAIRMAN: Okay.

6                   MS. CRONK: Q. But that -- as I  
7       understand it, that's an umbrella task of the Minister  
8       clearly with respect to any activity that's carried out  
9       on an FMA, including specifically renewal?

10                  MR. HYNARD: A. Including renewal.

11                  Q. All right. Is there anything else  
12       specific to renewal that you perceive to be a task  
13       assigned to the Minister under these agreements?

14                  A. I don't have one that springs to  
15       mind. Do you have one which you wish to add?

16                  Q. No, that's fine, Mr. Hynard.

17                  MS. CRONK: Could I ask then, sir, that  
18       that be marked as the next exhibit.

19                  THE CHAIRMAN: Exhibit 581.

20       ---EXHIBIT NO. 581: Handwritten list of renewal  
21                               (reserved)       related tasks assigned to Minister  
  under FMA agreement.

22                  MS. CRONK: Q. Now, I had suggested to  
23       you a little earlier, Mr. Hynard -- and I think we are  
24       through with the flip chart at the moment, if you wish  
25       to take your seat. Thank you.

1 I had suggested to you earlier, Mr.  
2 Hynard, that the tasks assigned under these agreements  
3 to both sides were inter-related and you agreed with  
4 me.

5 I then suggested to you that the ability  
6 of the industry company on the one hand to perform  
7 certain of its tasks in some situations was dependent  
8 upon the Minister fulfilling a task assigned to him,  
9 and I said I would come back to that.

10 In light of the exercise that we have now  
11 been through, is it fair to suggest that the ability of  
12 the industry to perform the tasks assigned to it under  
13 these agreements are often dependent upon the  
14 performance by the Minister of tasks assigned to him?

15 Let me give you a specific example. You  
16 have told the Board that it is one of the tasks  
17 assigned to the Minister to supply nursery stock and  
18 seed as reasonably required to the industry companies  
19 pursuant to the agreements.

20 Is it fair to suggest, Mr. Hynard, that  
21 that has a direct impact on the performance by the  
22 company of its obligation, direct obligation to  
23 regenerate, to reforest?

24 MR. HYNARD: A. The reason that I am so  
25 hesitant in replying is that that is not a simple



1 question with a simple answer. Of course on the  
2 surface that's absolutely true, that the company cannot  
3 conduct silvicultural treatments in accordance with the  
4 groundrules if the groundrules call for tree planting  
5 and the Minister has failed to provide any stock.

6 So, yes, they are related and, yes, in  
7 that sense the ability of the Minister to perform his  
8 duties affects the ability of the company to perform  
9 its duties.

10 I think perhaps paragraph 28 of the  
11 agreement -- 28, subparagraph 1, is the key to perhaps  
12 the line of questioning that you have, and that is that  
13 the obligations of the Minister to pay monies under  
14 this agreement are each subject to the conditions  
15 precedent that monies are appropriated therefore by the  
16 legislature of the Province of Ontario.

17 And that's the catch, that if the  
18 Minister is unable to provide enough stock to treat all  
19 of the areas cut-over in accordance with the  
20 prescriptions that they agree to in the groundrules, if  
21 he is unable to simply because he cannot finance that  
22 level of activity, including all the site preparation  
23 and the costs of planting and later tending and so on,  
24 then paragraph 28 says that his obligations are in fact  
25 subject to that condition.

1                   Now, I know it's true too that the  
2       legislature does not appropriate money for each FMA; it  
3       does it for the program as a whole. But the reason I  
4       was hesitant in replying to your question directly is  
5       because of this paragraph.

6                   Q. All right. Well, I thank you for  
7       pointing that out, Mr. Hynard, and I suppose the larger  
8       question then becomes this:

9                   Is it fair to say that there are a whole  
10      series of factors that affect the performance of tasks  
11      under this agreement both -- under these types of  
12      agreements, both by the industry and by the Minister?

13                  A. Yes, that's true. And I should point  
14      out that the ability of the company to deliver its -  
15      and I will use the word obligation because it is  
16      clearly an obligation - that if the area has failed to  
17      meet the stocking standards, the company must reforest  
18      at its own expense. But it too is relieved of that  
19      obligation if the Minister has failed to provide money  
20      for treatment in the first place.

21                  Q. All right. Availability of funding  
22      then is key on both sides of the coin?

23                  A. It certainly is.

24                  Q. All right. Would you agree with me  
25      as well that availability of adequate stock is

1 obviously an impacting factor as well?

2 A. Absolutely, and it's really part and  
3 parcel of that bigger problem.

4 Q. And, as well, the availability of  
5 stock of appropriate quality is an impacting factor?

6 A. Certainly, that is true.

7 Q. And I suppose in some situations some  
8 foresters would say that weather had a direct impact on  
9 the ability in given situations to do what was required  
10 to be done?

11 A. Yes, and I believe there is a  
12 clause -- a paragraph in the agreement related to that  
13 also.

14 Q. All right. And are there any other  
15 general factors, non-site specific factors that occur  
16 to you now as having a direct impact on the performance  
17 of those tasks on either side?

18 A. I would certainly be able to come up  
19 with a list if I was given time, but I think we have  
20 hit the major ones. I think that financial --  
21 treatability, yes, treatability of stands would be one.

22 Q. And could I suggest as well - and  
23 please tell me if you agree or not - that the occurrence  
24 of a major natural event, an uncontrollable event, for  
25 example an epidemic proportionate, an insect

1       infestation could have an impact on the ability to  
2       perform some of these tasks in a timely way?

3                       Perhaps that's a bad example. What I am  
4       getting at is something that is unforeseen and  
5       uncontrollable, it is a natural occurrence of a  
6       significant proportion.

7                       A. It wouldn't change the relationship  
8       of the role -- the tasks and certainly the ability of  
9       the two parties to adequately reforest an area  
10      following a natural disaster. It simply says in the  
11      agreement that both parties will sit down and work up a  
12      plan to deal with such an occurrence if it happens.

13                      Q. It would, however, affect the timing  
14      of regeneration efforts and also the extent of  
15      regeneration that might have to be undertaken; isn't  
16      that so?

17                      A. Yes, that's true.

18                      Q. All right. Thank you. And then,  
19      finally, if there are any other features or factors,  
20      Mr. Hynard, on reflection that you feel have a direct  
21      bearing on what I have called the ability of either  
22      party to perform the renewal tasks under these  
23      agreements, please let me know before I sit down. I  
24      would be pleased to hear from you.

25                      A. Yes. Another one came to mind while



1       you were speaking and that is the registration of  
2       herbicides for tending work and most -- I believe all  
3       groundrules of all agreements have a provision with  
4       respect to that.

5                   Q.   Help me with what you mean by that,  
6       please? I am not certain that I understand what you  
7       are saying?

8                   A.   If in the event that in the future  
9       suitable herbicides were unavailable or made  
10      unavailable or the Minister refused to grant the  
11      authority to conduct herbicide application, then the  
12      company is relieved of its obligations in those events.  
13      Obviously it would be unable to perform its tasks if  
14      that were to occur.

15                  Q.   Thank you. And then finally on this  
16      issue with respect to the FMA program and FMA holders,  
17      Mr. Hynard, I would like you, if you could, to provide  
18      to the Board some indication of the extent of the  
19      program, what we are talking about here, and to assist  
20      you in that, can you tell the Board how many FMA  
21      agreements are now in place in the area of the  
22      undertaking?

23                  A.   Well, it has been two years since I  
24      worked on the program. It is in the order of 33 or so,  
25      31, something in that order.

1 Q. And do you know, Mr. Hynard - and if  
2 not, perhaps one of your colleagues does - how many  
3 square kilometres of Crown lands in the area of the  
4 undertaking is covered by those agreements?

5 A. Not offhand. It would be about 70  
6 per cent of the area under licence in Ontario. It is a  
7 very large area.

8 Q. 70 per cent -- about 70 per cent of  
9 the area under licence. What proportion is that of the  
10 total geographical extent of the area of the  
11 undertaking, or do you know?

12 A. I don't know. It would be certainly  
13 less than that, 70 per cent, but I don't know that  
14 number. And if it is important to you, I will  
15 undertake to get that number.

16 Q. Just give me a moment if you would,  
17 Mr. Hynard.

18 MS. CRONK: Excuse me, Mr. Chairman.

19 MR. FREIDIN: I believe that evidence was  
20 given in Panel 2 and if Ms. Cronk doesn't have ready  
21 access to that information we can provide her with that  
22 information.

23 MS. CRONK: Thank you, Mr. Freidin.

24 Q. Mr. Hynard, during the Panel 4  
25 evidence before the Board, Mr. Carey testified that the

1 FMAs comprise 45 per cent of the Crown land within the  
2 area of the undertaking. Does that accord with your  
3 understanding?

4 MR. HYNARD: A. Yes, yes. I'm not  
5 surprised by that number, yes.

6 Q. All right. So that we are clear  
7 about the percentages we are talking about, you have  
8 told the Board that they represent approximately 70 per  
9 cent of the area under licence, but that being a  
10 different thing from the geographical extent of the  
11 Crown land in the area of the undertaking?

12 A. Yes.

13 Q. All right.

14 A. Yes, that's right.

15 THE CHAIRMAN: So is that roughly 45 per  
16 cent of 385,000 square kilometres? Is that what we are  
17 talking about?

18 MR. HYNARD: I'm sorry, Mr. Chairman?

19 THE CHAIRMAN: Around 45 per cent of  
20 385,000 square kilometres?

21 MR. HYNARD: Is 385,000 the area of the  
22 undertaking?

23 THE CHAIRMAN: I think it's around that,  
24 385, 380.

25 MR. HYNARD: Yes. Well, if we worked out

1 our arithmetic, it looks like we've got it.

2 MS. CRONK: Q. Well, Mr. Hynard, to  
3 assist the Board - and I confess that it's that latter  
4 number that I don't have even at my own fingertips -  
5 could you check that please so that we are not in some  
6 doubt later?

7 MR. HYNARD: A. Yes. You would like to  
8 know the exact percentage or the exact area?

9 Q. We are talking -- I was talking about  
10 the area, if can provide it to us, approximately in  
11 terms of hectares represented -- or square miles,  
12 whatever is the convenient measure, represented by the  
13 FMAs currently in place?

14 A. Yes, we will have it tomorrow  
15 morning.

16 Q. Thank you.

17 MS. CRONK: That was the question, sir?

18 THE CHAIRMAN: (nodding affirmatively)

19 MS. CRONK: Thank you.

20 Q. And with that in mind as well, Mr.  
21 Hynard, there were, as you may recall in panel --  
22 during the course of the evidence on Panel 4, there was  
23 evidence given regarding the regeneration levels  
24 achieved under the FMA program. I don't know if you  
25 were here for any of the Panel 4 evidence; were you?



1 MR. HYNARD: A. No, I wasn't and, no, I  
2 am not familiar with their figures.

3 Q. All right. Moving to the left,  
4 looking to the left. Mr. Kennedy, are you familiar  
5 with any of the evidence given in Panel 4 with respect  
6 to regeneration levels in general terms?

7 MR. KENNEDY: A. Yes, in general terms I  
8 am.

9 MS. CRONK: All right. You may recall,  
10 Mr. Chairman, that one of the exhibits that was marked  
11 during Panel 4 -- and to save us time I have made some  
12 extra copies, it is Exhibit 149.

13 THE CHAIRMAN: This isn't changed at all?

14 MS. CRONK: No, sir.

15 THE CHAIRMAN: So we will leave the same  
16 number then.

17 MS. CRONK: (handed)

18 Q. This, Mr. Kennedy, to refresh your  
19 memory and that of others, was a response to an  
20 OFIA/OLMA Interrogatory Question No. 1 with respect to  
21 Panel 4 and you will see that the two charts attached  
22 to it related to a comparison of the FMA regeneration  
23 program to the total for Crown land, that's the first  
24 graph attached, and the second was a comparison of the  
25 FMA tending program to the total of the Crown land

1 tending program.

2 Have you seen this exhibit before, Mr.  
3 Kennedy?

4 MR. KENNEDY: A. Yes, I have.

5 Q. All right. It was Mr. Carey's  
6 evidence, as I understand it, with respect to the first  
7 graph; that is, the comparison of the FMA regeneration  
8 program to the total of the regeneration program on  
9 Crown land, that in 1986 the 55 -- 55 per cent of the  
10 entire Crown land regeneration program was attributable  
11 to FMA regeneration, and 50 per cent of the entire  
12 tending program on Crown land was attributable to FMA  
13 tending effort.

14 Now, I wanted to draw the attention of  
15 this panel to this exhibit again. Given the nature of  
16 your evidence collectively with respect to renewal  
17 activities in the area of the undertaking, are you in a  
18 position, Mr. Kennedy, or one of your colleagues to  
19 help the Board as to in fact what those graphs would  
20 look like for 1987/1988, recognizing that the Ministry  
21 has now available to it more current statistics than  
22 were then available a year ago?

23 MR. HYNARD: A. And your question is:  
24 What would the graph look like in 1986/1987 if the FMA  
25 companies were not conducting these operations as we

1 see on the graph; is that right?

2 Q. No, I'm sorry, Mr. Hynard. What I am  
3 saying is -- let me be more specific and perhaps in the  
4 first instance I will direct the question to Mr.  
5 Kennedy.

6 The graph depicts the FMA component of  
7 total regeneration effort on Crown lands in the years  
8 1980 to 1986, and I am asking whether, recognizing that  
9 it was many months ago that this exhibit was introduced  
10 before the Board and it was introduced by witnesses not  
11 speaking specifically to renewal issues, are you in a  
12 position to tell the Board based on 1987/1988  
13 statistics what that graph would like today if we were  
14 to do it today?

15 MR. KENNEDY: A. I expect the number  
16 would be higher, the amount of area treated by the FMA  
17 holders.

18 Q. Do you know what relationship that  
19 would bear to the overall Crown land effort, or do you  
20 wish to make inquiries about that and inform me  
21 tomorrow morning?

22 A. I prefer to make inquiries and inform  
23 you tomorrow morning, please.

24 Q. Can I have your undertaking to do  
25 that?

1 A. Yes, you can.

2 MR. FREIDIN: Yes.

3 MS. CRONK: Thank you.

4 Q. And similarly with respect to the  
5 tending graph, if you wouldn't mind, the second graph,  
6 the tending graph as well?

7 MR. KENNEDY: A. Very well.

8 Q. Thank you. If the exact numbers are  
9 available, Mr. Kennedy, I would be grateful for them,  
10 but if they are not I would be grateful for your  
11 expectation based on the 1987 and 1988 experience as to  
12 what contribution the FMA program has in fact made to  
13 the regeneration and tending efforts?

14 A. I understand.

15 Q. Clear? Thank you very much.

16 All right.

17 MS. CRONK: And on the same issue and,  
18 that is, the contribution of the FMA program and the  
19 extent of it, with respect to this panel's evidence,  
20 Mr. Chairman, there was an interrogatory posed by our  
21 clients, the OFIA and the OLMA, and I would like to  
22 file now the answer to it. It was Question 20 of the  
23 OFIA interrogatories.

24 THE CHAIRMAN: All right. Exhibit 582.

25 MS. CRONK: 582, Mr. Chairman?



1 THE CHAIRMAN: That's correct.

2 MS. CRONK: Thank you.

3 ---EXHIBIT NO. 582: OFIA/OLMA Interrogatory Question  
4 No. 20 and answer (Panel No. 11).

5 Q. Mr. Hynard, could I ask you to go, so  
6 that we can relate or put this interrogatory response  
7 in context, if you would, to page 182 of the renewal  
8 evidence, Volume I. Do you have that, sir?

9 MR. HYNARD: A. Yes, I do.

10 Q. All right. That is Table 4 entitled:  
11 Summary of Artificial Regeneration Operations,  
12 1986/1987, and am I correct that the interrogatory  
13 response that we have just filed updates that table to  
14 include data as at March 31, 1988?

15 A. Yes, it appears to be that.

16 Q. All right. And does it reflect then  
17 the amount of planting as described in the  
18 interrogatory response and the amount of seeding both  
19 on Crown management units and FMA units as at March 31,  
20 1988, as they relate to the total undertaking of that  
21 kind on Crown lands?

22 A. Yes, that's what that table indicates  
23 to me.

24 Q. All right. And would you agree with  
25 me, sir, looking at the numbers reflected in the column

1 dealing with Crown management units and the numbers  
2 reflected in the column dealing with FMA agreements,  
3 that the planting and the seeding efforts under the  
4 FMAs in each case has been considerably and I suggest  
5 materially higher than that on the Crown management  
6 units based on this information?

7 A. Yes, that's right.

8 Q. All right.

9 A. Overall about twice as high.

10 Q. Thank you, Mr. Hynard. Then I would  
11 like to move, if I could, to a discussion specific to  
12 the Crown management units as opposed to the forest  
13 management agreement units, and I have a number of  
14 questions relating to those.

15 Again, I was in some difficulty in  
16 identifying which of you fairly it should be that these  
17 questions are put to.

18 And, Mr. Kennedy, in looking at your  
19 resume, I understand that you have had planning  
20 experience both with respect to the forest management  
21 agreement units and Crown management units. Am I right  
22 in that?

23 MR. KENNEDY: A. Yes, from the Crown  
24 perspective.

25 Q. I'm sorry, sir, I didn't hear you.

1 A. From the Crown perspective, yes.

2 Q. All right. What I would like to do  
3 then is to put the questions to you and if you feel it  
4 more appropriate to defer to a colleague, then I invite  
5 you to do so.

6 With respect to the Crown management  
7 units as distinct from - and again I am talking renewal  
8 activities on those units - as distinct from the FMA  
9 units, Mr. Kennedy, it is so; is it not, that industry  
10 has no direct involvement or responsibility for renewal  
11 and regeneration on Crown management units? That's  
12 basic; isn't it, to the current system?

13 A. That's correct.

14 Q. You seemed to be hesitating. Was  
15 there some reason for that?

16 A. I was thinking of the case where  
17 there may be occasions when industry staff would be --  
18 industry staff and equipment could be involved in  
19 treatments, but that would be rare.

20 Q. All right. As a general rule there  
21 is a fundamental distinction to be drawn, industry, as  
22 Mr. Hynard has told us under the FMA program is  
23 directly responsible for planning and implementing  
24 renewal activities, it is precisely the reverse with  
25 respect to Crown management units; isn't that so?

1 A. That's correct.

2 Q. All right. And leaving that aside  
3 however; that is, the responsibility or the task -- who  
4 carries out the task of renewal activities, I'm going  
5 to suggest to you that the industry has a vital  
6 interest in the renewal activities that are carried out  
7 on Crown management units, and I'm going to suggest to  
8 you, and I ask for your comment, would you agree or  
9 disagree that that is so for a number of reasons.

10 First, am I right that the Crown  
11 management units represent on occasion a significant  
12 source of timber for industry?

13 A. Yes.

14 Q. Right. And am I right that that  
15 occurs both directly through the provision of timber  
16 but also pursuant to wood exchanges?

17 A. Would you be more specific.

18 Q. As I understand it, there are a  
19 number of ways in which Crown management units can  
20 serve as a source of timber for industry's mills; one  
21 of them is pursuant to wood exchanges. Are you  
22 familiar with that?

23 A. In that all the -- when you refer to  
24 industry, what are you referring to at that point?

25 Q. Well, I saw Mr. Waito nodding his



1 head yes, so perhaps he can help me. Mr. Waito, can I  
2 direct the question to you.

3 MR. WAITO: A. Well, I think the answer  
4 is yes to that question.

5 Q. All right. And it is simply - and I  
6 don't want to state it in any way except precisely  
7 accurately - as I understand it, timber can be provided  
8 directly or there can be situations in which timber  
9 from Crown management units is provided to industry  
10 mills pursuant to exchanges?

11 A. Yes, that's correct.

12 Q. All right. And in that sense, would  
13 it be fair to say that industry has, as I suggested a  
14 few moments ago, a vital interest in how renewal  
15 activities are carried out on those units because they  
16 represent a current and future source of wood supply?

17 A. Yes, that's correct.

18 Q. Both for the province as a whole and  
19 specifically to individual companies.

20 A. Yes.

21 Q. All right. And with respect to the  
22 Crown management units and the type of regeneration  
23 effort that is undertaken on them, can we agree that as  
24 a proper planning principle, a proper forestry planning  
25 principle, the same criteria for stocking, survival,

1 free to grow and anything that speaks to stand  
2 condition, measurement, those criteria should be the  
3 same regardless of what unit you are talking about from  
4 a proper forestry planning perspective?

5 A. Yes, the criteria will be the same or  
6 similar. It would depend on the management unit and on  
7 the sites that are being managed, but the criteria  
8 would be the same.

9 In other words, I believe in Panel 4  
10 regional benchmark standards were filed in evidence and  
11 those regional standards would be considered by both  
12 foresters on both an FMA and on a Crown or a company  
13 unit. So the answer to your question is yes.

14 Q. All right. And I suppose the real  
15 point is this: Whatever those benchmarks might be, Mr.  
16 Waito, step back from the field situation and approach  
17 it from a planning point of view, and I am suggesting  
18 to you that good forestry planning would not  
19 distinguish between unit type in determining what an  
20 appropriate stand condition criteria was?

21 A. No, it wouldn't. I agree with you.

22 Q. And, therefore, there is no, from a  
23 proper planning point of view, there should be no  
24 distinction between CMUs and FMA lands in that regard?

25 A. That's right.

1 Q. And That would be true whether it  
2 related survival criteria, stocking criteria, free to  
3 grow criteria or the like?

4 A. Yes, that's correct, the principle is  
5 the same.

6 Q. All right. Thank you. And as you  
7 point out, coincident with that or flowing from that,  
8 they are in fact the same in a number of situations?

9 A. Yes, they are.

10 Q. All right. And for example what  
11 springs to mind is the 40 per cent minimum stocking  
12 requirement. As I understand it, that is the same  
13 regardless of unit type?

14 A. That's correct.

15 Q. All right. Now, as part of your  
16 evidence-in-chief, Mr. Waito, you put in a series of  
17 exhibits that dealt with past results on Crown  
18 management units. And I would ask you to put in front  
19 of you - and the Board might have it convenient to  
20 have - Exhibit 540, 551 and 552.

21 MS. CRONK: Mr. Chairman, I don't know  
22 what the Board's pleasure is in terms of how late you  
23 wish to sit this evening and whether you wish to break  
24 now. I still hope to finish this evening, but I  
25 suspect it will be an hour before I can do so.

1 THE CHAIRMAN: Well, I think in that case  
2 we should probably -- how is the reporter? Do you  
3 need a break?

4 THE REPORTER: No.

5 THE CHAIRMAN: Why don't we just push on.

6 MS. CRONK: That's fine, sir. Thank you.

7 THE CHAIRMAN: I'm not sure we have these  
8 exhibits, however.

9 MS. CRONK: 552, Mr. Chairman, was a hard  
10 copy of the overheads entitled: Past Results and they  
11 were a response to a Forests for Tomorrow  
12 interrogatory. It would be important that you have at  
13 least 552.

14 THE CHAIRMAN: Okay. Why don't we take a  
15 break for ten minutes and we will go and get those in  
16 the meantime.

17 MS. CRONK: Thank you. There are three  
18 sir. 540, 551 and 552.

19 THE CHAIRMAN: Okay.

20 MS. CRONK: Thank you.

21 ---Recess taken at 4:35 p.m.

22 ---On resuming at 4:55 p.m.

23 THE CHAIRMAN: Thank you. Be seated,  
24 please.

25 MS. CRONK: Thank you, Mr. Chairman.



1 MR. HYNARD: Ms. Cronk?

2 MS. CRONK: Yes, Mr. Hynard.

3 MR. HYNARD: I noticed afterwards, when  
4 you were directing me to look at two interrogatories,  
5 Question No. 1 from Panel 4 OFIA/OLMA and Question 20,  
6 Panel 11 and I was thinking afterwards that I may have  
7 left a wrong impression.

8 The graph that you referred me to on the  
9 first one, Question 1 from Panel 4 shows the FMA  
10 program representing about 55 per cent of the total and  
11 the Question No. 20 asks for an extension of that to  
12 1988.

13 I am not sure whether that first one  
14 refers to artificial regeneration treatments only or  
15 all regeneration treatments. It does not state in the  
16 interrogatory or on the table. It's clear that the  
17 second one, Question 20, Panel 11 refers to artificial  
18 only.

19 MS. CRONK: Q. Mr. Hynard, I did not  
20 mean to suggest by my questions to you that there was  
21 necessarily any relationship between the two documents.

22 A. Good, thank you.

23 Q. Question 20 related specifically to  
24 Table No. 4 in the evidence and it's clear from its  
25 title as you pointed out that (inaudible).

1 A. Thank you. Sorry to take that time.

2 THE CHAIRMAN: Did you get all of that?

3 THE REPORTER: No, I didn't get the  
4 ending.

5 "...it's clear from its title as you  
6 pointed out that..."?

7 MS. CRONK: It deals with artificial  
8 regeneration.

9 THE REPORTER: Thank you.

10 MS. CRONK: Thank you. Thank you, Mr.  
11 Chairman.

12 Q. Mr. Waito --

13 THE CHAIRMAN: We've lost a witness.

14 MR. WAITO: Was Exhibit 540 the Minden  
15 information?

16 MS. CRONK: Q. Yes, it was.

17 MR. WAITO: A. That is what Peter is  
18 getting there now.

19 Q. Thank you. Mr. Waito, I am going to  
20 direct these questions to you because these exhibits  
21 were put in through you and they flow from the  
22 discussion that we were having just before the break  
23 with respect to the issue of renewal management of  
24 Crown management units, and my first questions are by  
25 way of my gaining an understanding of what the

1 information is that we find in Exhibit 552, the Past  
2 Results documentation.

3 As I understand it, this information was  
4 compiled in response to an interrogatory delivered by  
5 Forests for Tomorrow; is that correct?

6 A. That's correct.

7 Q. All right. And do we find that  
8 interrogatory set out on the second page of Exhibit  
9 551, Question No. 15?

10 A. Okay. That is what I don't have  
11 then, 551.

12 Q. Do you have all three documents now,  
13 Mr. Waito? You need --

14 A. Yes. Actually the Minden information  
15 was filed by Mr. Hynard, so any questions you might  
16 have pertaining to that one, I would be pleased to try  
17 and help, but Peter I'm sure could do a better job, but  
18 I have the other two.

19 Q. All right. Well, my question for the  
20 moment is directed to one that came in through you,  
21 sir, and it's 551 and my question to you was:

22 Is that where we find the interrogatory  
23 that generated the data that we find in Exhibit 552?

24 A. That's correct, it is.

25 Q. And in the question posed in the

1       interrogatory, there are eight districts named. Were  
2       those districts selected by Forests for Tomorrow or by  
3       the Ministry?

4                   A. They were selected by Forests for  
5       Tomorrow.

6                   Q. So with respect then to the data in  
7       Exhibit 552, would I be correct in understanding that  
8       it is specific to past results on those eight districts  
9       only?

10                  A. That's correct.

11                  Q. And further, specific only to  
12       activities on Crown management units within those eight  
13       districts?

14                  A. That's correct.

15                  Q. And am I correct that both exhibits,  
16       551 and 540, are the back-up documents for the data  
17       summaries that we see in 552?

18                  A. That's correct.

19                  Q. And I am looking at the cover page of  
20       Exhibit 552, Mr. Waito, and again a preliminary  
21       question: Am I correct that the data set out on these  
22       sheets pertains to a ten-year period, the 1970s to the  
23       1980s?

24                  A. That's correct. Forests for Tomorrow  
25       asked for the past ten years, 1978 to 1988, and so the



1 information was collected during that period of time.

2 Q. And could I ask you to go, if you  
3 would, back - and I'm sorry we are going to have to  
4 flip back and forth through these - back again to  
5 Exhibit 551, to the cover page, not the letter -- well,  
6 actually the content is the same. Either the last  
7 paragraph in the covering letter or the last paragraph  
8 on the second page which reads:

9 "This series of tables represents the  
10 areas that have been assessed during the  
11 past ten-year period. Additional areas  
12 have been treated but not assessed. It  
13 is standard practice that assessments are  
14 conducted on a sample of the treated/  
15 untreated area."

16 I struggled with that a bit, Mr. Waito,  
17 and I think I now know what it means and I would like  
18 to be sure before I pursue the rest of my questions  
19 that I am right.

20 Are you saying there, sir, that the  
21 results relate only to areas that in fact were surveyed  
22 on these eight districts during that ten-year period  
23 and not to the whole of each of those eight districts?

24 A. That's correct. The results -- they  
25 represent a sample of the work that was done in those

1 districts and does not necessarily represent every  
2 hectare that was treated or untreated. So every  
3 hectare was not assessed.

4 Q. And for the purposes of compiling a  
5 response to this interrogatory did the Ministry, under  
6 your direction or, for that matter, anyone else's,  
7 actually conduct any surveys?

8 A. No. They did not.

9 Q. All right. What then did you do to  
10 get this data?

11 A. We relied on the districts searching  
12 their files for assessment data that they had collected  
13 over the past ten years on the areas that had been  
14 treated and relied on them to provide us with that  
15 information in the format that you see before you in  
16 551.

17 Q. Would it be fair to suggest then, Mr.  
18 Waito, in light of what you have just told us that the  
19 information in - and I'm primarily concerned with  
20 Exhibit 552 - is very site-specific?

21 A. Yes, it is.

22 Q. All right.

23 A. Very site specific.

24 Q. All right. Could I ask you to go to  
25 page 3 -- I'm sorry, page 4 of that document first.

1 MS. CRONK: Mine are numbered (a), (b),  
2 (c), (d), et cetera, Mr. Chairman. It's (d).

3 MR. WAITO: That would be the one  
4 entitled: Stocking?

5 MS. CRONK: Q. Yes. Dealing with first  
6 the stocking results, and I direct your attention to  
7 the bottom paragraph where you are discussing the  
8 variation in objective standards.

9 What you have said, or at least what this  
10 document indicates is that an objective standard for  
11 planting is 60 to 80 per cent. I take that to be, of  
12 course in light of what you have said, on Crown  
13 management units in these districts?

14 A. That's correct. No, not in the  
15 districts. What I was trying to do in -- on that first  
16 page was to give an indication to the Board what the  
17 variation in planting or what the variation in  
18 objective standards might be within the area of the  
19 undertaking, not just the eight districts and that is  
20 one of the reasons why, for planting for example, you  
21 see a high of 80 per cent.

22 There are in other -- in some of the  
23 other regions in the area of the undertaking,  
24 particularly for white pine and for white spruce in  
25 certain circumstances the districts have set or the

1 regions have set an objective standard of 80 per cent.  
2 So the numbers here do not pertain just to the eight  
3 districts that the data was supplied for.

4 Q. Well I thank you, that is helpful.  
5 Thank you for telling me that. But with respect to the  
6 range that is actually cited, that is the 60 to 80 per  
7 cent, first as I understood your evidence-in-chief,  
8 that is a range of objective standards not actual  
9 standards. Am I right in that?

10 A. It's a range of objective standards.

11 Q. All right. Where did that 60 to 80  
12 per cent come from?

13 A. It comes from Panel 4. In Panel 4 we  
14 filed as evidence I believe regional benchmark free to  
15 grow standards for the seven regions I guess it is in  
16 the area of the undertaking, and my intention was to  
17 give an indication of how the objective standard can  
18 vary across the area of the undertaking.

19 And if you review -- if you look at those  
20 standards you will see that there is a variation  
21 depending on what region and what the prescription is.  
22 So that I guess -- it was a simple message, there is a  
23 variation and you have to -- and it is site-specific  
24 and it is even region specific.

25 Q. All right. Well, I have the Panel 4



1 evidence here, Mr. Waito, but I can't quickly put my  
2 hand on the regional benchmark standards. But my  
3 recollection is that they included objective standards  
4 for what were termed elite plantations. Am I right in  
5 that?

6 A. That's correct. That is one example  
7 in the northeastern region where they have an objective  
8 standard of 80 per cent.

9 Q. All right. So does that range of 60  
10 to 80 per cent then include the elite plantations?

11 A. Yes, that would include that example.

12 Q. All right. And as I understand what  
13 that term refers to, it refers to the very best stock  
14 available; does it not, that which has been genetically  
15 improved?

16 A. That's correct.

17 Q. All right. Thank you, that helps.  
18 And still dealing with the stocking results, could I  
19 ask you to turn to the next page, if you would, Mr.  
20 Waito, page (e).

21 I would like to direct your attention  
22 initially to the statistics that you have provided for  
23 the conifer working groups and you have indicated in  
24 this document that 76 per cent of the area treated  
25 artificially had greater than 40 per cent stocking

1 results while 87 per cent of the area naturally  
2 regenerated had greater than 40 per cent stocking  
3 results.

4 Dealing first with the 87 per cent figure  
5 for the area naturally regenerated, can you tell us  
6 please what made up that 87 per cent?

7 A. The largest proportion of the area  
8 that was sampled and contributed to the per cent figure  
9 was area that was regenerated in Hearst District. I  
10 believe it constituted approximately 77 per cent of the  
11 sample for the conifer working groups.

12 Q. Sorry, 77 per cent?

13 A. I believe it was approximately 77 per  
14 cent. And so the information that contributed to the  
15 stocking per cent certainly was weighted towards that  
16 provided by Hearst District.

17 Q. Those are lowland sites; are they  
18 not?

19 A. That's correct.

20 Q. How would you rank them in general  
21 terms in terms of complexity of treatment?

22 A. Well, in terms of the primary species  
23 that grows best on lowland sites you are really looking  
24 at one or two with black spruce being the primary  
25 species.

1                   So from a species perspective, they may  
2     not -- they are probably not as complex as an upland  
3     situation where you would be dealing with a greater  
4     variety of species that would perform well on that  
5     site.

6                   Q. I will be perfectly blunt with you,  
7     Mr. Waito. I had some difficulty with that 87 per cent  
8     percentage, it struck me as being high and in light of  
9     what you have just -- and I don't mean by that that I  
10    dispute in any way its accuracy - but in light of what  
11    you have just told me, had those type of sites in  
12    Hearst not been included, would you have expected that  
13    percentile to be that high?

14                  A. No. I think the message I wanted to  
15    convey here and certainly the information conveys that  
16    it is possible to get quite good natural regeneration  
17    on appropriate sites and I think the point was made  
18    earlier that any information on past results, be it  
19    survival, stocking or free to grow is very, very  
20    site-specific and this is an example of where, if you  
21    don't know where the information came from, you can be  
22    possibly misled as to the success of natural  
23    regeneration.

24                  Q. Would it be fair of me to suggest,  
25    Mr. Waito, that that 87 per cent would not be

1 representative of the situation across all CMUs in the  
2 area of the undertaking?

3 A. On the sites that the stocking  
4 information was gathered from, we mentioned -- I  
5 mentioned that Hearst -- the information from Hearst  
6 represented the largest percentage of it.

7 On those site types where the  
8 regeneration technique or renewal method were used that  
9 they used in Hearst and if the sites are the same, you  
10 would expect similar results. But certainly if you  
11 were looking strictly at conifer working groups on all  
12 sites and natural regeneration, you would not expect to  
13 get 87 per cent of the area meeting the minimum  
14 stocking standard to conifer if it were regenerated  
15 naturally.

16 Q. Precisely, it would be quite high;  
17 wouldn't it, as a representation across all CMUs?

18 A. Yes, yes.

19 Q. All right. And it certainly would  
20 not be representative of the kind of results you would  
21 expect across the whole of the area of the undertaking?

22 A. That's correct.

23 Q. All right.

24 MR. MARTEL: Have you done any type of  
25 analysis of what that figure might be, an average?



1       What does the Ministry expect?

2                   MR. WAITO: I am not aware of any  
3       analysis that has been done, Mr. Martel. We expect to  
4       get good results, but just how good it's really  
5       difficult to say.

6                   MR. MARTEL: That's fine.

7                   MS. CRONK: Q. Well, in fact just  
8       flowing from that, Mr. Waito, that really gets at one  
9       of the difficulties that I had with these numbers, and  
10      again I'm going to be blunt with you and ask you to  
11      comment on it.

12                   As I understand it really the percentages  
13      in this document have been aggregated based on the  
14      results that were actually available to you in an  
15      effort to reply to the interrogatory. And my question  
16      to you is this: Were you trying to get at the kind of  
17      number that Mr. Martel was asking for, would it be  
18      appropriate in your professional judgment to be  
19      aggregating numbers of this kind?

20                   MR. WAITO: A. No, it wouldn't be  
21      appropriate. There is always a danger when you try and  
22      aggregate numbers. It was I guess a risk that I was  
23      taking in trying to describe what the information was  
24      actually representing out there.

25                   Actually, I would like to take an

1 opportunity, since we are discussing 550, to clarify  
2 what I think might be a misunderstanding, it certainly  
3 wasn't intended.

4 But on 552(d) where I spoke of minimum  
5 stocking standard for working group species, I would  
6 have been more accurate if I would have said to  
7 acceptable species.

8 I think the impression may have been  
9 given that for a particular working group, that if it  
10 exceeded the 40 per cent stocking that it exceeded it  
11 to the actual working group species -- the primary  
12 working groups species. For instance, if it were a  
13 jack pine working group, it's at least 40 per cent  
14 stocked to jack pine.

15 That is not the case in all situations.  
16 I checked with some of the districts and in some cases  
17 the working group species was the only working group --  
18 was the only species that was counted and for Hearst  
19 that holds true, black spruce was the only species that  
20 was acceptable. However, there were other regions and  
21 other -- excuse me, other districts where more than  
22 just the working group species were considered  
23 acceptable to contribute to the stocking level.

24 And that -- there was I think a  
25 misconception left with possibly the Board and with the

1 parties here on that particular point.

2 Q. Well, you have said a number of  
3 things and you can see where I am coming, Mr. Waito.

4 A. Okay.

5 Q. Because I had some concerns about  
6 that number. I understand you have just told us that  
7 when we look at that 76 per cent and the 87 per cent we  
8 should bear in mind that that is not 40 per cent  
9 stocking to working group only in all cases, but in  
10 some instances it included to acceptable species?

11 A. That is correct.

12 Q. All right. Had it been to working  
13 group only, would you agree with me that one might  
14 expect the numbers to be lower?

15 A. Yes, they probably would be lower.

16 Q. Right. And you told me a few moments  
17 ago that in your professional judgment if you were  
18 trying to get at the kind of number that Mr. Martel was  
19 speaking about, it would not be appropriate to  
20 aggregate the numbers and, in fairness, I suppose to  
21 you and to all concerned, isn't that simply because the  
22 site conditions are so variable in the area of the  
23 undertaking that you would end up not only aggregating  
24 apples and oranges but - not to push the metaphor - but  
25 you would really have a whole fruit salad that wasn't

1 directly related?

2 A. That's correct. In fact, it's one of  
3 the reasons why in my direct evidence I had indicated  
4 that we -- you know, as a public servant I feel I am  
5 accountable, but there is a fair amount of difficulty  
6 in coming up with a system whereby we would aggregate  
7 numbers -- potentially aggregate numbers across the  
8 province to give a correct picture of what the status  
9 of renewal is out there, and this I think points out  
10 some of the difficulties with that.

11 Q. So that when we look, for example,  
12 over on page (f) where you are talking about the  
13 natural regeneration percentages, and the indication is  
14 made that 87 per cent -- I'm sorry 87 per cent  
15 represents good results for conifer working groups,  
16 given everything that we have just discussed, it's  
17 really very good; isn't it?

18 A. I guess I am modest. It's very good,  
19 yes.

20 Q. And the real point I suggest is the  
21 one that you make in the last bullet on that page and;  
22 that is, that high quality natural regeneration can be  
23 achieved on certain sites. But it is. I suggest to  
24 you, very site-specific. Would you agree?

25 A. I would agree with you.



1                   Q. And then going back again to (e) if  
2 you would, the other point about these percentages in  
3 the conifer working group, just comparing what you have  
4 said on the 76 per cent and on the 87 per cent; areas  
5 treated artificially on the one hand, areas naturally  
6 regenerated on the other, that could be taken as it is  
7 to suggest - I'm sorry - that could be taken, given the  
8 way that it is written, to suggest that better stocking  
9 results were achieved with natural regeneration efforts  
10 than with artificial regeneration efforts for the  
11 conifer working group.

12                   Was it your intent or was it the intent  
13 by whoever authored that to communicate that?

14                   A. No, it was not the intent. I was the  
15 author and that certainly wasn't the intent.

16                   Q. All right. And this really I  
17 regard - and I welcome your comments on it - as being  
18 quite fundamental to a discussion of any results of  
19 this kind, whether its on CMUs or FMAs and I am going  
20 to suggest to you that there are some sites where it is  
21 simply not possible to proceed with natural  
22 regeneration, it bears so little potential for success  
23 it's a non-starter. Would you agree?

24                   A. I would agree with that.

25                   Q. All right. And -- in the area of the

1       undertaking?

2                   A.   Yes.

3                   Q.   And similarly would it be fair to  
4       suggest that there are some sites that present with  
5       characteristics which make it clear that natural  
6       regeneration is the only appropriate way to go or  
7       certainly out distancing any other option; that it is  
8       the most appropriate?

9                   A.   That's correct.

10                  Q.   All right.   And would you agree with  
11       me that in some situations it can be that black and  
12       white looking at a site?

13                  A.   It could almost be that black and  
14       white.

15                  Q.   All right.   And what I am going to  
16       suggest to you then that in this whole discussion of  
17       choosing between an appropriate regeneration method,  
18       that it would be appropriate conceptually to regard it  
19       as a continuum such that on one end we have sites where  
20       clearly natural regeneration would not be appropriate  
21       and would bear little chance for success and, on the  
22       other end of the continuum, there would be sites which  
23       command natural regeneration.

24                  Would you agree thus far?

25                  A.   Yes, I would agree with that.

1 Q. All right. That takes me then to the  
2 whole area in the middle, and I suggest to you that  
3 it's in that whole area - and I recognize the variables  
4 that go into it - that the element of professional  
5 judgment and site variability become very real. Would  
6 you agree with that?

7 A. I would agree with that.

8 Q. All right. Leaving aside then those  
9 situations on either end of the continuum, would you  
10 agree with me they're extreme -- real but extreme  
11 indications at either end?

12 A. They represent -- again, we are  
13 talking sites here and they certainly represent  
14 extreme, if you will, site conditions with respect for  
15 instance to moisture. I'm thinking -- if I understand  
16 you correctly, we are talking about lowland situations,  
17 very moist situations where because of limitations of  
18 site certain species just are not -- it's not possible  
19 to grow those species on those sites.

20 And at the other end of the extreme you  
21 have very dry sites where, for instance, jack pine may  
22 be the most appropriate species and may grow very well.  
23 And inbetween those two extremes of moisture condition  
24 we have -- I think most people would agree, we have the  
25 boreal mixed wood area where quite a variety of species

1 will do exceptionally well on those sites and it's  
2 under those conditions that management becomes the most  
3 difficult and the most challenging.

4 Q. And leaving aside then each far end  
5 of the continuum--

6 A. Yes.

7 Q. --would you agree with me that in  
8 those cases that fall in that vast middle where  
9 professional judgment is exercised and where  
10 sophistication of management, treatment and experience  
11 come to bear, that it's in those situations as a  
12 general rule one would expect better stocking results  
13 following artificial regeneration techniques than  
14 following natural regeneration, as a general rule?

15 A. I would agree with that as a general  
16 rule.

17 Q. All right, thank you. And I suggest  
18 to you, Mr. Waito, that if we went to Volume I of the  
19 renewal evidence at page 106, and I direct your  
20 attention to paragraph 3.5 under Economic Factors, that  
21 that's really the point that's made in that first  
22 sentence; is it not? The sentence reads:

23 "While the main advantage of natural  
24 regeneration methods is one of low cost,  
25 artificial methods usually produce



1 superior results."

2 First, do you agree with that statement?

3 A. Yes. Again, it is very  
4 site-specific. I think the author has not been too  
5 site-specific here, but I would agree with you on that  
6 point.

7 Q. All right. As a general principle,  
8 in your professional experience, would that not be the  
9 expectation?

10 A. Yes.

11 Q. Thank you. That's not to say or  
12 suggest in any way, Mr. Waito, that you don't need  
13 both, but I suppose in the end the point comes to this  
14 (a) the general expectation that we have spoken about;  
15 but, secondly, neither natural regeneration nor  
16 artificial regeneration I suggest are a panacea or a  
17 response to every site; would you agree?

18 A. I would agree with that.

19 Q. All right. And then I suppose the  
20 final point on the stocking results, page (e), Mr.  
21 Waito, concerns the percentages that you have set out  
22 for the hardwood working groups at the bottom of the  
23 page. You showed 96 per cent of the area naturally  
24 regenerated had greater than 40 per cent stocking  
25 results. Do you see that?

1 A. Yes, I do.

2 Q. All right. And, again, in light of  
3 what you have told us for the conifer working groups,  
4 should we take that to be a 40 per cent indicative of  
5 both working group species and, in some instances,  
6 acceptable species as well?

7 A. I think so. However, in the case of  
8 hardwood we are looking at -- the bulk of the  
9 information that contributed to this was from hard  
10 maple and for poplar and I think I would have less of a  
11 problem with the hardwood working group species than I  
12 would have with the conifer.

13 So that that 96 per cent number is  
14 probably pretty representative, particularly in view of  
15 the evidence that Mr. Hynard gave on hard maple and the  
16 kinds of regeneration that you can get with hard maple  
17 in the southern part of the area of the undertaking.  
18 But --

19 Q. Did that -- I'm sorry?

20 A. But your comment true. It may -- the  
21 stocking information would have included species other  
22 than -- or could have included species other than just  
23 the working group species.

24 Q. Did that percentage, Mr. Waito,  
25 include natural regeneration in maple in the Minden

1 area?

2 A. I don't -- I would have to check and  
3 see.

4 Q. Perhaps you could do that over the  
5 evening, or unless you know, Mr. Hynard?

6 A. Mr. Hynard may be able to answer  
7 that.

8 MR. HYNARD: A. The only maple figures  
9 that are in there are from Carleton Place for the  
10 simple reason that Forests for Tomorrow interrogatory  
11 asked for white pine only from Minden and we just gave  
12 them the figures that they asked for.

13 Q. I see. All right. And then on the  
14 same page, the second bullet, Mr. Waito, you have  
15 indicated that 83 per cent of the area surveyed met  
16 minimum stocking standards.

17 In calculating that percentage, is that  
18 an aggregate percentage taking into account the 96 per  
19 cent for the hardwood work working groups as well as  
20 the percentages for the conifer working groups?

21 MR. WAITO: A. Yes, it is.

22 Q. Thank you. As I understand it, you  
23 told me earlier that the Ministry did not, for the  
24 purposes of responding to this interrogatory, actually  
25 go out and conduct surveys; you went out and got the

1 information that existed with respect to surveys that  
2 had already been conducted?

3 A. That's correct.

4 Q. All right. Do you know when the  
5 surveys -- in what years the surveys were actually  
6 conducted? Were they uniformly in one year or were  
7 they over a number of years?

8 A. They were generally over a number of  
9 years. It varied from district to district. Some  
10 districts only had information for one particular year,  
11 others collected information over a number of years,  
12 some districts didn't have any information at all. So,  
13 you know, the database by no means was exhaustive.

14 Q. All right. Would you agree with me,  
15 Mr. Waito, that if the stocking assessment surveys for  
16 each area where they did exist had uniformly been  
17 conducted at year five, that could have had -- would  
18 have a material effect on these numbers?

19 A. It might have an effect. Some of the  
20 information -- some of the stocking information was not  
21 gathered in precisely year five, it may have been year  
22 six or year seven and, as a result, there may have been  
23 additional ingrowth of acceptable species that may have  
24 contributed to the stocking levels when the stocking  
25 survey was done.



1                   Q. All right. Thank you. And then  
2                   could we very quickly look at the free to grow past  
3                   results set out on pages (g) and (h) of Exhibit 552.  
4                   And, again, if I could start first dealing with the  
5                   conifer working groups. The data indicates that 69 per  
6                   cent of the area treated artificially was free to grow,  
7                   77 -- I beg your pardon, 71 per cent of the area  
8                   treated naturally was free to grow.

9                   I ask you to go to Exhibit 551 bearing in  
10                  mind those numbers, if you would, please.

11                  A. I have that.

12                  Q. And, again, this is simply so that we  
13                  can understand where the numbers came from, Mr. Waito.  
14                  As I understand it, it is the last seven or eight pages  
15                  of Exhibit 551 that set out the free to grow survey  
16                  results; is that correct?

17                  A. That's correct.

18                  Q. Right. And you indicated a few  
19                  moments ago that the database had limitations to it  
20                  effectively, as I understand what you were saying?

21                  A. Yes.

22                  Q. All right. And if we look at the  
23                  free to grow assessment results, I suggest that your  
24                  point is apt with respect to these results. Correct me  
25                  if I am wrong, but as I read the documentation it

1 appears that there were no free to grow assessment  
2 results in a number of the districts identified by  
3 Forests for Tomorrow at all?

4 A. That's correct.

5 Q. And that would include Wawa and  
6 Temagami, for example?

7 A. Yes.

8 Q. The same thing for Carleton Place?

9 A. Yes.

10 Q. And that takes us down to five  
11 districts where free to grow survey results were in  
12 fact available?

13 A. That's right.

14 Q. And of those five, would I be correct  
15 in suggesting that most of the results appear to be  
16 from Thunder Bay?

17 A. That's correct.

18 Q. Do you know what percentage the  
19 Thunder Bay data bears to the database as a whole for  
20 those free to grow results?

21 A. I think it was about 67 per cent. So  
22 it was two-thirds.

23 Q. So what we are really looking at in  
24 fairness with the free to grow results in Exhibit 552  
25 it's largely representative of the results in Thunder

1 Bay?

2 A. That's correct.

3 Q. And in fact there weren't all that  
4 many free to grow assessment results available, in any  
5 event, in the areas that Forests for Tomorrow selected;  
6 isn't that right?

7 A. That's correct.

8 Q. Can you help me as to why that's the  
9 case?

10 A. One of the reasons is the concept of  
11 free to grow is relatively new on Crown units. It has  
12 been in effect -- or the term has been around since the  
13 inception of the forest management agreement program,  
14 and really for the Crown units it has just came into  
15 play in I think 1986. So it is a concept that most  
16 foresters on Crown units wouldn't be that familiar  
17 with. So they wouldn't have been doing free to grow  
18 surveys for many years.

19 I think secondly, and in talking to some  
20 of the districts and based on my own experience, the  
21 availability of funds to collect this kind of  
22 information has played a role in gathering as much  
23 information on past results as we might feel is  
24 necessary.

25 Funds have always been made available for

1 data collection; however, once you get to the district  
2 level, and certainly to the regional level, funding  
3 priorities will direct where those funds might be spent  
4 in data collection and that has been a limitation in  
5 the past in terms of collecting as much information as  
6 we might like to collect.

7 Q. Is that another way of saying, Mr.  
8 Waito, that if more money was available there might be  
9 more free to grow surveys undertaken?

10 A. That's a way of saying it.

11 Q. And, again, still dealing with page  
12 (g), the free to grow results, the data indicates that  
13 81 per cent of the area met free to grow standards at  
14 the time of the survey -- at the time of the survey.

15 And what I asked myself when I saw that,  
16 in light of that language, was: How much do we know  
17 about those surveys, recognizing that you didn't  
18 conduct them and the Ministry didn't do them for the  
19 purposes of this interrogatory. First of all, they  
20 were survey results over a ten-year period; am I right?

21 A. That's correct.

22 Q. Do you know anything about how the  
23 surveyors went about selecting the areas chosen to be  
24 surveyed?

25 A. I don't have intimate knowledge. I



1 spoke to some of the people who were involved in the  
2 work in Thunder Bay District since they -- the  
3 information they provided made up such a large  
4 proportion of the data, and it is my understanding that  
5 they conducted their free to grow surveys in accordance  
6 with the methodology that's set out for free to grow  
7 surveys and they considered the three criteria that are  
8 required for an area to be declared free to grow and;  
9 that is, meeting a minimum stocking standard, meeting  
10 the minimum height requirement and being essentially  
11 free from competition.

12 I understand that a lot of the free to  
13 grow survey work that was done in the district was of  
14 an aerial reconnaissance using the aerial  
15 reconnaissance method which is an acceptable method for  
16 determining free to grow. And beyond that, that's the  
17 extent of my knowledge of the methodologies that were  
18 used.

19 Q. Thank you, Mr. Waito. I suppose the  
20 thought that had occurred to me with relation to that  
21 question, how the surveys were conducted, was this:  
22 Would you agree with me that surveyors, in going out to  
23 do free to grow surveys, could approach it - and  
24 accepting immediately that it is done within the  
25 relevant protocol and according to the relevant

1 criteria, put all of that aside - going out and making  
2 a decision as to which part of the land base, which  
3 part of the area is to be surveyed, one could approach  
4 it by saying: I'm going to survey the areas that I am  
5 most certain are going to reach -- satisfy those free  
6 to grow criteria, or one could say: I'm going to  
7 survey those lands that look like they might and in  
8 some cases include potentially marginal areas.

9 Would you agree with me that there is  
10 quite a big difference in that approach?

11 A. Well, I'm not entirely sure if I  
12 understand your question.

13 Q. Let me rephrase it for you. What I  
14 am suggesting to you is that surveyors on the ground,  
15 deciding what areas to survey for the purposes of a  
16 free to grow assessment, could do so with the  
17 determination in mind of surveying only those areas  
18 that were certain to satisfy the free to grow criteria;  
19 that is one way it could be approached?

20 A. Yes. Yes, that's a way it could be  
21 approached.

22 Q. Another way in which it could be  
23 approached, I suggest, is if the surveyors on the  
24 ground go out and say: We want to meet these three  
25 criteria but we will include -- we will take those

1       where maybe it's marginal but maybe they meet it,  
2       that's a determination for someone else, they don't  
3       have to be quite so certain. Would you agree that's  
4       another approach?

5                   A. That's another approach.

6                   Q. And what I'm saying to you is clearly  
7       those two approaches can lead to quite different  
8       results?

9                   A. Yes, they can. With respect to the  
10      Thunder Bay information, I don't know which approach  
11      they took other than to say I think they went out and  
12      assessed -- they assessed areas for the purpose -- for  
13      the explicit purpose of determining whether or not it  
14      was free to grow and, in fact, there was a significant  
15      amount of the area, or at least a portion of the area  
16      that did not meet the free to grow standards and in  
17      fact I think shows up in those tables.

18                   For example, in artificial in the black  
19      spruce working group, they surveyed 3,780 hectares and  
20      of that 2,752 were determined to have met the free to  
21      grow standards. So there is about a thousand hectares  
22      that did not meet the minimum standards.

23                   Again, I think the district went out and  
24      assessed the land for what they thought was there and I  
25      think the results reflect that they didn't, in this

1 case, skew it to we are just going to assess areas that  
2 we know are free to grow. So if that helps...

3 Q. And you draw that conclusion from the  
4 numbers that you have available as opposed --

5 A. Yes.

6 Q. Sorry.

7 A. Yes.

8 Q. Let me finish the question.

9 A. Sorry.

10 Q. It's all right. You draw that  
11 conclusion from the numbers you have available to you  
12 as opposed to any knowledge of how they actually in  
13 fact did it; isn't that so?

14 A. That's correct.

15 Q. Thank you.

16 THE CHAIRMAN: Mr. Waito, with respect to  
17 FMA units, wouldn't the Ministry just go out and assess  
18 those areas for free to grow at the request of the  
19 company and presumably the company wouldn't request it  
20 unless they themselves first thought they were free to  
21 grow?

22 MR. WAITO: That's correct.

23 THE CHAIRMAN: I think you get into your  
24 discussion, Ms. Cronk, on Crown units where they could  
25 go out for any number of reasons, but not an obligation



1 under an FMA agreement.

2 MS. CRONK: That in fact leads to my very  
3 point, Mr. Chairman, that there is a fundamental  
4 difference between approaching the matter so that you  
5 are certain something will satisfy the free to grow  
6 criteria and arguably approaching it where you might  
7 not be quite so certain.

8 THE CHAIRMAN: Okay.

9 MS. CRONK: Q. And just on that finally  
10 then, Mr. Waito, on this document as well, can you tell  
11 us how reflective the areas surveyed were of the areas  
12 actually treated, or do you know?

13 MR. WAITO: A. I don't know.

14 Q. Okay. And were the free to grow  
15 survey areas the same areas surveyed for the stocking  
16 results?

17 A. I don't know if they were or not.

18 Q. It could have been different?

19 A. It could have been different, yes.

20 Q. Okay, thank you. And then just  
21 looking for a moment at the area naturally -- treated  
22 naturally and the 71 per cent result having achieved  
23 free to grow status, can you tell me what the term  
24 natural means in that context? I have learned that  
25 context means a great deal when that word is used.

1       What does it mean?

2                   A.   That would be any area that had  
3       received a regeneration treatment other than planting  
4       or seeding.   Artificial regeneration pertains to tree  
5       planting or direct seeding, natural regeneration could  
6       be natural unassisted, it could be modified harvest  
7       cutting.   It is the distinction between Mr. Hynard's  
8       and my evidence.

9                   So simply it is all that area that was  
10      not regenerated using artificial means which are  
11      planting and seeding.

12                  Q.   So specific then to that 71 per cent.  
13      Does that mean that if an area had been site prepared  
14      and then left to regenerate naturally, it would be  
15      included in that 71 per cent calculation?

16                  A.   That's correct.

17                  Q.   And, similarly, if an area had been  
18      tended but left otherwise to regenerate naturally,  
19      would that be included in that 71 per cent?

20                  A.   That's correct.

21                  Q.   And would you agree with me that that  
22      is an important consideration to be kept in mind when  
23      considering the significance of that number?

24                  A.   Yes.   Yes, it is.

25                  Q.   All right.   And then finally the same

1 question that I put to you with respect to the stocking  
2 results percentages, you are showing 81 per cent of the  
3 area met free to grow standards at the time of the  
4 survey. In arriving at that 81 per cent, purely as a  
5 matter of mathematics, did you take into account the 85  
6 per cent achieved with the hardwork working group?

7 A. Yes, I did.

8 Q. So that's a rolled-in average as  
9 well?

10 A. Yes. It is a weighted average, yes.

11 Q. Thank you.

12 MS. CRONK: Mr. Chairman, I will be no  
13 more than 15 minutes. Is it your pleasure to conclude  
14 at this time?

15 THE CHAIRMAN: I think we should try and  
16 finish off.

17 MS. CRONK: Thank you. That's fine.

18 THE CHAIRMAN: Thank you.

19 MS. CRONK: Mr. Waito, thank you.

20 MR. WAITO: Thank you.

21 MS. CRONK: Exhibit 547, Mr. Chairman,  
22 and witnesses, was a response to an OFIA/OLMA  
23 Interrogatory No. 14, with respect to Panel 11. Do any  
24 of you have a copy of that available to you there?

25 THE CHAIRMAN: I am not sure that we do.

1 MS. CRONK: If you will give me one  
2 moment, sir. (handed)

3 Q. Mr. Waito or Mr. Hynard, do either of  
4 you have a copy available? It is Exhibit 547.

5 MR. WAITO: A. Is it Question 14?

6 Q. Yes.

7 A. Yes, we can share one here.

8 Q. All right, that's fine. And, again,  
9 as I recall it, Mr. Waito, this exhibit was marked  
10 during the course of your evidence, so in the first  
11 instance I direct my question to you.

12 A. Okay.

13 Q. As I understand what this question  
14 and response are related to, I direct your attention  
15 first to subparagraph (b). You were requested to  
16 produce MNR's production forecast for planting for the  
17 years 1989 to 1993, and then in part (c) you were asked  
18 to produce MNR's production forecast figures for  
19 nursery stock in the area of the undertaking for the  
20 years 1989 to 1993.

21 And if we look at the response under  
22 subparagraph (b) beginning at the bottom of page 1, as  
23 I understand it, what's been produced is the five-year  
24 nursery stock demand forecast for northern and southern  
25 Ontario by region; is that correct?



1 A. That's correct.

2 Q. So it is the demand side of the  
3 equation, not the production side?

4 A. That's right.

5 Q. All right. Then you go on to  
6 indicate that the figures for the area of the  
7 undertaking are represented by the northern Ontario  
8 forecast plus the forecast for the Algonquin region and  
9 a portion of the forecast for the eastern region. Am I  
10 right so far?

11 A. That's correct.

12 Q. All right. Could I ask you then to  
13 go, if you would, to the first page of the demand  
14 forecast, the attachment, and can you tell me please  
15 what is it that is the northern Ontario reference that  
16 you are referring to? I didn't know which number I was  
17 to take.

18 A. Okay. It would include the four  
19 northern regions: northern, northeastern northwestern  
20 and northcentral. So the all region total, for  
21 instance, for 1993/94 would be 186.45-million trees at  
22 the bottom right-hand corner of the table.

23 Q. 186?

24 A. 186.45. So that's the northern  
25 Ontario portion that we were referring to in the

1 answer.

2 Q. So if we wanted the demand forecast  
3 then for 1989/1990, we would take the figure of 171.89?

4 A. That's correct.

5 Q. And we would add to that, is this  
6 correct, the Algonquin total appearing on the next page  
7 for the same year of 3.20--

8 A. That's correct.

9 Q. --million?

10 A. That's correct.

11 Q. And what proportion of the eastern  
12 forecast do we add?

13 A. Okay. You would have to go to  
14 paragraph (b) in the written explanation to try --  
15 well, to get an estimate of what the demand would be  
16 there.

17 The difficulty came in splitting out area  
18 of the undertaking and southern Ontario. And in the  
19 case the eastern region, only a portion of that region  
20 is in the area of the undertaking. If I can just take  
21 a minute here to take a look at these numbers.

22 Q. Fine. Thank you.

23 A. I believe the number you would add  
24 for the eastern region would be 500,000. Say, less  
25 than 500,000 of the 900,000 are scheduled for planting

1 on Crown lands, so for the eastern region you would  
2 add 500,000.

3 Q. All right. And if we were to do that  
4 for the 1989/1990 demand forecast for the area of the  
5 undertaking, adding those three components that you  
6 have indicated, I make it to be a demand forecast of  
7 about 176-million trees. Is that correct?

8 A. That's probably correct.

9 Q. And what is it, excuse me, for  
10 1990/1991 on the same basis?

11 A. Okay. So you want 1990/91?

12 Q. 1990/1991, yes, please.

13 A. The numbers should be approximately  
14 177.27. I'm just taking the 500,000 from the eastern  
15 region. They indicated that that was about the average  
16 over that five-year period, would be 500,000.

17 Q. All right. Thank you. So that we  
18 have a forecast demand figure for the whole of the area  
19 of the undertaking in 1988/89 of approximately  
20 176-million and in 1990/1991, 177-million  
21 approximately?

22 A. That's correct.

23 Q. All right. Could we then look at the  
24 production side and, as I understand it, that  
25 information is provided in the response to paragraph

1 (c) commencing at page 2 of this exhibit?

2 A. That's correct.

3 Q. All right. And I direct your  
4 attention to the two concluding paragraphs on that  
5 page, Mr. Waito. Am I correct that the planned nursery  
6 stock production level for the 1989 planting season for  
7 the area of the undertaking is 137-million?

8 A. No. Here we ran into the -- again, a  
9 difficulty of separating out the area of the  
10 undertaking from all of Ontario. The total for Ontario  
11 is 160-million trees that is to be planted this year of  
12 which 137-million, that figure represents the northern  
13 Ontario figure, and 23-million equates to southern  
14 Ontario.

15 So you would have to add to the 137 a  
16 portion of that 23-million. I don't know what the  
17 amount is going to be planted in the Algonquin region  
18 is nor the portion that would be planted in the eastern  
19 region to round out the area of the undertaking.

20 Q. Would it be fair to assume that it  
21 wouldn't be proportionately that much greater than the  
22 demand component from those two regions?

23 A. I think that would be fair, given an  
24 approximation.

25 Q. That might take us then to a



1 production forecast of about 140-, 142-million,  
2 something like that?

3 A. Something like that.

4 Q. For 1989?

5 A. That's right.

6 Q. And for 1990/1991, taking into  
7 account what you have just told me, the number, as I  
8 understand it, would be in the order of 131-,  
9 132-million; is that correct?

10 A. That's correct. There is a  
11 reduction.

12 Q. There's a reduction of almost  
13 10-million; isn't it?

14 A. That's correct, across the province.

15 Q. I'm sorry, it's a reduction of almost  
16 10-million in the area of the undertaking; is it not?

17 A. No. The provincial total is the 160  
18 for this year, for 1990 the provincial total is 150, so  
19 looking --

20 Q. Can we go back, Mr. Waito?

21 A. Okay.

22 Q. I'm trying to get at the production  
23 number for 1989/1990 for the area of the undertaking.  
24 You told me that we take the 137-million, that is the  
25 north -- northern Ontario, we add to that part of the

1 eastern region production forecast and the Algonquin  
2 forecast and I thought you had agreed with me that that  
3 would take us to approximately 140-, 141-million trees.

4 A. Okay.

5 Q. Is that correct?

6 A. Yes.

7 Q. And if we did the same exercise for  
8 1990/1991 and we found that the number was  
9 approximately 132-million, again, talking the area of  
10 the undertaking not the province?

11 A. Yes. I guess I will have to take  
12 your math for it.

13 Q. Well, that would be a very dangerous  
14 thing for you to do.

15 A. I suppose it would be.

16 Q. I have suggested the numbers for you.  
17 Could you consider it over the evening and let me know  
18 if I have made an error?

19 A. Sure. I sure will.

20 Q. And what I'm asking for your  
21 confirmation of is that that would appear to mean a  
22 production drop in a one-year period of something like  
23 9- to 10-million trees in the area of the undertaking?

24 A. Okay, I will check on that for you.

25 Q. Will you give me this for the night,

1       that based on what we have done so far it looks like  
2       that's right?

3                   A.   It looks like it is.

4                   Q.   Yes, thank you.   Mr. Kennedy -- Mr.  
5       Waito, thank you very much.

6                   Mr. Kennedy, I have two very quick  
7       questions for you and they relate to two of the photos  
8       that you presented to the Board as part of your  
9       evidence-in-chief regarding site preparation.

10                  And bearing in mind the hour, if we could  
11       do this rather quickly, would you pull - if you can  
12       easily do so and, if not, perhaps we could put this  
13       over to the morning - but if you could easily do so,  
14       could you pull please photograph 10 and photograph 12  
15       and put them up for the Board to take a look at on the  
16       overhead, your slides.

17                  THE CHAIRMAN:   Are these also in the  
18       evidence.

19                  MS. CRONK:   Yes, they are, sir.

20                  Q.   Thank you, Mr. Kennedy.   Wherever you  
21       feel more convenient.   My question is simply:

22                  You have showed this photograph and this  
23       slide to the Board in the context of discussing various  
24       forms of site preparation equipment and various  
25       techniques for site preparation, but I noted what the

1 background appeared to be and can you explain to the  
2 Board what they are looking at there in behind that  
3 machine?

4 MR. KENNEDY: A. Yes. I believe in the  
5 background we are looking at here is dead balsam fir  
6 and it's most likely been caused by spruce budworm  
7 mortality.

8 Q. All right. Is that then  
9 representative of what the after effects on trees would  
10 be of a spruce budworm attack?

11 A. Yes, it is. This would be those  
12 trees that have had severe defoliation over a number of  
13 years and have lost all their needles and have since  
14 died. This is the lower portion of the crowns that we  
15 are looking at here, balsam fir.

16 Q. All right. Thank you. And could you  
17 put up overhead -- or I suppose slide, I beg your  
18 pardon, No. 12, please.

19 No. 12. I'm not sure that is No. 12, Mr.  
20 Kennedy. That's No. 12 I believe. Are We looking at  
21 same thing there; that is, in the background spruce  
22 budworm damaged trees?

23 A. Yes, we are. In this area here we  
24 are looking at the same stand conditions.

25 Q. And by this area here, you're waving

1       your light pointer in the center of the stand--

2                   A.   Yes.

3                   Q.   --appearing in the background?

4                   A.   Yes.   In the upper part -- shows the  
5       unper part of the crown where the condition is the  
6       same.

7                   Q.   All right.   Would they of the normal  
8       course ultimately be removed from the site or would  
9       they be allowed to remain standing?

10                  A.   That particular area that is in  
11       behind is an unharvested area.   In the case of  
12       harvesting operations, those trees that were sound  
13       would be harvested, otherwise the stand, if it was one  
14       hundred per cent balsam fir, may be renewed to a  
15       different species.

16                  Q.   Thank you very much, Mr. Kennedy.

17                  MS. CRONK:   Mr. Chairman, I have a series  
18       of interrogatory responses that I would like to file  
19       and then, subject to the outstanding information that  
20       has arisen in the last hour or so, that would conclude  
21       my cross-examination.

22                  THE CHAIRMAN:   Very well.

23                  MS. CRONK:   I don't know, sir, if it is  
24       your preference to file these as a bundle, as Mr.  
25       Freidin did.   We have photocopied them separately, but



1 it's cumbersome to give them each a separate exhibit  
2 number.

3 THE CHAIRMAN: Are they all of your  
4 interrogatories, or are they--

5 MS. CRONK: There's a mixture.

6 THE CHAIRMAN: --various parties'?

7 MS. CRONK: There's a mixture.

8 THE CHAIRMAN: A mixture.

9 MS. CRONK: I will tell you what they  
10 are, and then put them together and then present them  
11 to you in the morning as a composite, if you prefer  
12 that.

13 THE CHAIRMAN: I think if there's no  
14 reason why we should not file them separately it would  
15 make more sense to file them as a package.

16 MS. CRONK: All right. I'm sorry.

17 THE CHAIRMAN: We could file them as a  
18 package, unless you feel there's a specific reason why  
19 they should be filed individually.

20 MS. CRONK: No, there isn't, sir. Could  
21 I just describe it for you now then and then put them  
22 together.

23 THE CHAIRMAN: Very well.

24 MS. CRONK: The first package would be  
25 the responses to the OFIA/OLMA interrogatories numbered

1 1, 3, 12, 13, 15, 27, -- I'm sorry, sir, I'm going to  
2 have to do this again. Mr. Freidin filed some of  
3 these. Could I just ask you to delete that line. I  
4 will read them to you again.

5 They will be 1, 12, 13, 27 and 34. Those  
6 have not been filed yet. And then, secondly - and I  
7 will leave it at that - leave it at that. So I will  
8 produce them to you then in the morning as a composite.

9 THE CHAIRMAN: All right. We might as  
10 well just give them an exhibit number now. That will  
11 be Exhibit 583 I believe.

12 ---EXHIBIT NO. 583: OFIA/OLMA Interrogatory  
13 Question Nos. 1, 12, 13, 27, 34  
and responses thereto.

14 MS. CRONK: Thank you, Mr. Chairman.  
15 Thank you, gentlemen.

16 THE CHAIRMAN: Thank you.

17 Very well, ladies and gentlemen, we will  
18 adjourn until 9:00 a.m. tomorrow morning. Ms. Seaborn,  
19 you will be ready to go then?

20 MS. SEABORN: Mr. Chairman, I'm wondering  
21 if I could ask the Board's indulgence with respect to  
22 the starting time in the morning.

23 I expect that I could be completed in the  
24 morning, however, I would like to start at ten o'clock  
25 and perhaps knock half an hour off the lunch break and

1 I think if I could continue through until one and we  
2 just broke for lunch from one to two, that would be  
3 helpful to me.

4 THE CHAIRMAN: Very well. We will do  
5 that. Ten o'clock then. Thank you.

6 MS. SEABORN: Thank you.

7 ---Whereupon the hearing adjourned at 6:15 p.m., to be  
8 reconvened on Tuesday, May 16th, 1989, commencing at  
10:00 a.m.

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E R R A T A

VOLUME 55:

Please read:

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I N D E X    O F    E X H I B I T S

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
349C	Guidelines for Cold Water Lakes & Streams	
349D	Basic Guidelines for other Lakes & Streams.	9416
349E	Basic Guidelines to handle water quality concerns.	9419













